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THE BUILDER

A JOURNAL FOR THE ARCHITECT AND CONSTRUCTOR.

WITH WHICH IS INCORPORATED THE "BRITISH ARCHITECT."

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SPECIFICATIONS.

AMONG the many and varied duties which fall to the lot of an architect none is of more constant recurrence and, to most, none more irksome, than the writing of a specification. Often regarded as matter beneath the dignity of the designer, it is to be feared that a disagreeable duty is frequently handed on by the principal to others, and not infrequently the quantity surveyor is left to construct the specification from the drawings and such notes as he must necessarily obtain upon the architect's requirements. It would, of course, be absurd to suggest that every architect should personally write all his specifications, but the nearer the approach to this condition of things the more satisfactory will be the subsequent procedure of carrying out the work.

So important, indeed, is this matter regarded in America that a Specification Institute has recently been founded which appears to be meeting with appreciation and to command respect, suggesting that the subject is more seriously regarded there than in this country. A specification is the verbal expression of every requirement necessary for the erection of a building, and this and the drawings are the sole media whereby the whole detailed schemes of the architect are transmitted to those responsible for materialising his building; an obvious truth, yet one which merits consideration. In the rush of work the specification often gets less mature reflection than it deserves, yet time can hardly be better saved than by precision and elaboration before the tender stage. Every omission, every ambiguity, must some time or other come home to roost, and often, by acting as a disturbing factor affecting other work, may produce effects far beyond the supposed limits of doubt originally in the mind of the author. It is sometimes argued that the specification is little used; we have even met persons on works who have boasted that they never looked at the document, and recall an honest old-time builder who, in reference to his architect's written instructions, said, "I can't read his writing, but I know what he means." It may well be true that when a trusted builder works for a long period for an architect on buildings not very diverse in character the specification becomes very much a formality of secondary value, but these pleasant personal relationships between architect and contractor are getting rarer and do not touch the bulk of contracting work obtained in competition.

Architects submitting competitive designs know well how an ambiguous condition may affect success and, equally, how dubious specification clauses affect fair pricing. In small works without quantities this is obvious, but even where the specification does not appear until tenders are obtained the surveyor, in the absence of precise instructions, is prone to insert a covering clause throwing a risk on the contractor which is capable of various interpretations, and which, if lightly construed by the successful contractor, would probably lead to trouble. Specification writing may be irksome, but for the man who is going to look after the work the conscientious production of this document will prove of inestimable value, for not until one comes to write down in a form for instructing others all the intricacies of a building does one really formulate precise requirements upon details which, though clear in a general way to the mind, prove in many respects nebulous when an attempt is made to commit them to paper. It may be argued that in some cases clients are so undecided that changes are bound to occur during the work which will render much of the careful thought expended on the specification useless. The reply would seem to be that the client should be asked to make up his mind in advance, when if changes occur he will be responsible for these variations, but will probably still have a schedule rate upon which adjustments at tender prices can be made.

When work is urgent there is a great tendency to postpone decisions by inserting large provisional sums to cover certain items. This practice, though not wholly avoidable, should be resorted to as little as possible. Naturally, it is mostly concerned with sub-contractors' work, and long experience may enable one to include provisional sums suitable for the necessary services of specialists, but, in most cases, such work cannot be regarded as a thing apart. The needs of modern construction involve an interlocking of most trades, which means that certain provisions must be made for incidental work. More important is the possibility of a lack of detailed decision in such work producing some unforeseen and important change in the work of another trade. The ideal method after the drawings are sufficiently prepared is to begin with the important sub-contractors' various specifications, and thus allow time for the necessary interviews and negotiations while the plans are still in a fluid condition. Provisions, on the other hand, represent the only fair way of dealing with certain matters which neither architect nor contractor can fully elucidate in advance of actual work on the site. It is not fair to ask a contractor to allow for a risk which he cannot estimate in making up a price, and this often penalises the reputable firm anxious to avoid extras. The production of a really good specification requires first a thorough insight into detailed requirements in every phase of the work, which implies a good many drawings to half-inch scale in a work of any magnitude. Next it necessitates an ample knowledge not only of construction but of the varied conditions which may arise in the execution of the work, so that all eventualities capable of being reduced to money value may be included and the parties to the contract mutually safeguarded.

Finally—and this is a matter concerned with general education—clear diction is essential. It would be well, indeed, did schools devote more time to teaching expression by simple phraseology, for ambiguity where one should find precision is too often to be found even among well-educated people. A long specification or set of quantities does not alarm any business-like contractor, and if fullness does make the initial price more than an incomplete statement of requirements, surely it is better to face the position and gain a reputation for the completeness of one's work, even at the loss of some commissions because of cost, rather than to involve one's client in subsequent additional liabilities which he is bound to discharge to complete his building. We wonder how much work has been lost to the architectural profession through this reputation for "extras."

There is one weak point in specification writing, which is not the fault of the specification writer, and that is the insufficiency of knowledge as to the exact nature and properties of many materials. This is a matter concerned with science, and only a greater appreciation of science in education will result in means for the researches necessary in order to produce the requisite standards, which, when forthcoming, will be readily met by manufacturers if demanded. We have often advocated the claims of research workers, and here is a field urgently calling for attention.

Whether there is any justification for a Specification Institute in this country we are not prepared to say; but we think our architectural schools might in many cases pay more attention to this most essential duty of those entrusted with very great powers and the allocation of very large sums of money.

NOTES.

The Cost of Government Housing.

GOVERNMENT housing finance is severely criticised by the Geddes' Committee (as will be seen by its recommendations given on page 274), and there is probably no item under review that will find fewer supporters. The Committee points out that the cost of each house to the taxpayer will amount to £55 per annum, while the full annual charge on completion of the Government scheme will be £10,000,000 for 60 years, subject to slight measures of relief. These figures are appalling, and the Committee's statement that the average cost of each house will probably work out at £1,100 indicates that something was fundamentally wrong in the administration of the scheme. The real reason for the excessively high cost was surely an artificially created over-demand; the Government pressed for the erection of more houses than the labour or material available were able to supply. If the Ministry of Health had proceeded at half the pressure, and had adopted a pick-and-choose attitude towards tenders, prices would never have been much more than half those of August, 1920. The attitude of the Ministry was, however, dictated by the policy of the Cabinet and by popular demand; "homes for heroes" had been promised in impossible quantities, and the unfortunate Minister of Health was set the impossible task of providing them. Everything was sacrificed to speed and quantity, and in order to whet their appetities for building, local authorities were absolved from liability beyond the penny rate. This ill-considered policy resulted in a competition for labour and materials that inevitably forced up prices. This is the true explanation of the high prices, and the public should not be misled into supposing that they were due to extravagant design or to the standard of accommodation adopted. The very element that is now most aggressively acclaiming "the axe," and condemning the Government for having proceeded with housing under such a load of cost, is that which contributed most to the high prices by clamouring, some three years ago, for houses in impossible numbers to be erected with impossible haste.

Houses at Half Cost.

THE Geddes' Committee suggests that 36 per cent. of the total estimated loss—£3,600,000 per annum—could be saved by selling the houses (presumably those not already tenanted), a proposal that is being opposed on the grounds that it means breaking the Government's pledges. Let us take a common-sense view; we shall have new accommodation for, say, one million people; how does it matter which million uses it? Every grade of life gave its men to serve in the war, and it is hard to understand why the fact that a man can pay for a house should be treated as a reason for keeping him out of it; the new houses will ease the general situation none the less because they will more nearly pay their way. In respect to the actual number of houses that will be available, the Government housing scheme may be called an expensive failure, but we are not justified in assuming that it would have been better for the country had it never been undertaken. It has brought the housing question under review, and has demonstrated the lines along which we must look for success in the future. We shall be judged by posterity, not according to our financial success in a first venture, but in the measure of our success or failure in elevating housing to a position compatible with its importance to the welfare of the community.

The Architect and the Speculative Builder.

IN our last issue (p. 237) we printed an interesting article by Mr. H. R. Selley (Chairman of the London House Builders' Association), in which he pleaded for co-operation of the private architect and the house builder in the creation of houses for the people. The subject has an importance for architects as well as house builders, which is indicated by the fact that until the housing programme of the Government was launched architects had little

Paisley War Memorial Competition.

Design submitted by MESSRS. KENYON & LIVOCK, AA.R.I.B.A., architects; Mr. C. L. J. DOMAN, sculptor.

[This design was submitted in the Paisley War Memorial Competition by Messrs. Kenyon & Livock, architects, and Mr. C. L. J. Doman, sculptor. The monument was designed to stand in one of the city squares. The base is shown enriched by low-relief sculpture depicting incidents typical of the war. The enriched sarcophagus is placed beneath a stone canopy supported on eight Doric columns, and the whole memorial rises to a height of 42 ft. The first premiated design, by Sir Robert Lorimer, A.R.A., was illustrated in our issue for February 3.]

to do with this class of building, and we welcome discussion which will lead to some form of co-operation between them and house builders. We are glad, therefore, to be able to publish an article this week (p. 275) by Mr. E. B. Betham (late Secretary of the Housing Organisation Society, and late Regional Housing Inspector), in which some practical suggestions are made for providing architectural assistance in the design of this class of house. One fact to be borne in mind is that if architects "hope to achieve what has always eluded them," as Mr. Betham says, "except under the recent ephemeral conditions of State subsidy, namely, to take part in working-class housing, they must adapt their methods to the financial fact that the builders' capacity for producing economical work has a personal side, and that they have provided, without architectural participation, all the working-class housing that has been built on economic lines."

Specifications. THE American Specification Institute, recently founded in Chicago, has for its object the standardisation of methods of doing work and every process of installation. This is a very large field, but it is felt that present specification methods leave much to be desired. One writer on the subject classifies defects as due to ignorance, indolence, cowardice, and knavery. We should be sorry to endorse this outspoken view for work in this country, and the occasions upon which a specification is intentionally made misleading are, we are sure, very rare. The remark of an American barrister, that it ought to be possible in the case of almost every material to say that it shall conform to a given grade of fixed and known standard prescribed by a central organisation, is, however, worth thought. We certainly want more standards for materials on the lines laid down by the excellent work of the Engineering Standards Committee.

Art and the Public. NEW thoughts are stirring at the present time and the comfortable acquiescence of the 'eighties becomes a doubt and a disillusionment to-day. The letter which a correspondent contributes to a contemporary on this subject, arising out of the unfavourable comments so general on the Royal Academy Exhibition, illustrates this change in temper and outlook, and it is all to the good. It is seen in the case of most of the pictures at the Academy that they were produced to meet the public demand, the artist giving the public what they wanted and reaching fortune and reputation by so doing—but at the cost of art! This is all right from the point of view of the public, and recalls to us the advice of a father to his son, a good artist, who found it difficult to get along: "If I could not sell sugar, I should sell tea," so illustrating not only his own attitude, but that of these artists. If the sale of a thing is the only test, and the ideal of a good citizen promulgated by the world is right, there is no place for art—Virgil and Milton would not have written, nor would Rembrandt have become a bankrupt. Despising poverty itself, the public is quite tolerantly indifferent to art which seems to include so few of the virtues which it values. It thinks the artist rather a muff, and while eager to pay £15 for a box to see a prize fight would most probably not spend as many pence on a good picture.

The Artist and the Citizen AND yet there is alongside of this grosser materialism of man's natural wants and desires a seeking after those things which relate him more to that freedom for beauty which we see to have been operative in mediæval days. It has been said of late that the best artists can hardly live, and if the good citizenship (said by the writer to be adumbrated by Mr. Bernard Shaw) were true, he is a bad citizen into the bargain, for he will find it difficult even to pay his rates! And yet what is a good citizen? If he be one who contributes to his country's good, and in a wider sense to all mankind, then the artist has a good record of citizenship to show, for what is preserved of past civilisation is largely due to him, and what has come down to us from pagan, classic or mediæval time is mostly his work. Independently of schools and theories about art, does it not all depend on the source from which he draws the inspiration for his work? If he work for time—his own time and its applause, giving the public what it wants—we see that it will reward him. But if he aim to mitigate the grossness of its desires, to adorn life with a beauty that deepens its significance and enlarges its freedom, then he will not make a trade of his art, but in the stronghold of its great prerogatives will cast it on the seed ground of life, there to propagate and to enrich it with nobler impulses and desires. And in so doing he will alone reach satisfaction for himself.

A Criticism on Carving. THE public must often be amazed at the variety and extent of the knowledge shown by the daily Press, but it may be pointed out that Cæsar nods sometimes, as, for instance, over the statement, apropos of the death of Mr. J. C. Pawley, that "his model of the shrine which has long been exhibited in a Victoria-street window has been called by experts the finest specimen of Gothic carving executed in this country." How a model of this kind could be called Gothic carving and the finest executed in this country, the so-called "experts" can alone know.

Urn-Shape Vase, Pont Alexandre III, Paris.

Old London Bridge. THE Concrete Institute has appointed a special Committee in support of the efforts made by other societies for the preservation of the recently-discovered arch of Old London Bridge. Mr. W. J. H. Leverton has been chosen Chairman, and will act as connecting link with the London Society, of which body he is a member of Council. It is hoped shortly to arrange a public meeting to ascertain what steps shall be taken to ensure the preservation of this fine relic of the early days of the capital city of the Empire.

A Colour Competition. SOME useful educational value should result from the colour competition announced in our columns this week, both to the profession and the general public. The theme for competition is a colour design for a business building, having a frontage of 50 ft. to a street. The conditions appear to be well drawn up, and four competent assessors have been appointed. The designs are to reach the offices of the Royal Institute of British Architects by May 1. Permanent constructive decoration only is called for, and the conditions rather point to the use of concrete blocks faced with marble, terra-cotta, mosaic or copper plates as being 25 per cent. cheaper than an ordinary stone facing. The donor of the £200 offered in premiums is for the present anonymous.

GENERAL NEWS.

The Royal Scottish Academy.

Mr. J. Whitelaw Hamilton, A.R.S.A. (Helensburgh), and Mr. David Alison, A.R.S.A. (Edinburgh), painters, have been elected Academicians of the Royal Scottish Academy.

Edinburgh Architectural Association.

Mr. T. Aikman Swan, A.R.I.B.A., has been elected President of the Edinburgh Architectural Association in place of the late Mr. W. S. Oldrieve. Mr. J. Inch Morrison, Lic.R.I.B.A., has been elected Vice-President.

Sir John Soane's Bequest.

The trustees of Sir John Soane's Fund, 13, Lincoln's Inn-fields, W.C.2, will meet at the Museum on Wednesday, March 15, to distribute dividends from the sum of £5,000 among distressed architects, their widows, and children, in distress. Forms of application may be had at the Museum, and must be filled up and delivered there on or before March 2.

Architects' and Surveyors' Assistants' Professional Union.

The Executive of the A. & S.A.P.U., in co-operation with the Committee of the Metropolitan Branch, proposes to hold a series of public meetings at which matters of interest to the profession generally, and to architects' and surveyors' assistants in particular, will be discussed. The first meeting of the series will be held at Caxton Hall on March 2, at 7 o'clock, and the subject under discussion will be "Unemployment and the Professional Assistant."

Official Architects' Association.

The Council of the Official Architects' Association has resolved: "That the Council of the Official Architects' Association entirely endorses the action by the R.I.B.A. Council in respect of Sir Charles Ruthen's recent address on 'Housing,' which, however, it considers should be regarded as expressing personal rather than official architectural opinions. It emphasises, moreover, that the author of that address seriously reflects, and without apparent justification, on the competence of professional advisers in his own and other departments. It further records its views that a number of points embodied in the address in question are incomprehensible as expressions of opinion by a professionally-trained architect."

The Restoration of the Parthenon.

In a lengthy report on the proposals for the restoration of the Parthenon, the Athens correspondent of the *Manchester Guardian* states that at present no greater restoration is proposed than the re-erection of three columns (the seventh, eighth, and ninth) on the north side, and the replacement of the architrave. The scaffolding for this work is in position, and work has begun. The opinion is expressed that as the component parts of these columns are already in position the work of re-erection will not be difficult, but the writer is apprehensive of the success of the system by which the missing parts of the incomplete columns are to be replaced, namely, by the use of drums of coarse grey limestone and the repairs of broken corners and surfaces with plaster. This method, it is feared, judging by the analogy of the Nike Temple, will look most unsatisfactory, as the joints will show.

Rome Scholarship in Architecture.

The following have been selected by the Faculty of the British School at Rome to take part in the Final Competition for the Rome Scholarship in Architecture: Messrs. H. E. Hamilton Higham, Edward W. Martin, Edwin Williams, Wilfrid B. Edwards, Wesley Dougill, George Checkley, and Eric R. Arthur, of the Liverpool University School of Architecture; Mr. Stephen Welsh, of the Glasgow School of Architecture and Liverpool University School of Architecture; and Mr. Reginald A. Cordingley, of the Manchester University School of Architecture. Messrs. Walter A. Devereux (Queensland Architectural Association), Harold Conolly (Leeds School of Art), Donald Brooke (Liverpool University School of Architecture), John H. Forshaw (Liverpool University School of Architecture), and William J. H. Gregory (Liverpool School of Architecture), also took part in the preliminary competition. Five of the designs are illustrated in this issue, and a review of the designs submitted (which are on exhibition at the Royal Academy) is given on p. 254. The remaining four of the nine selected designs will be illustrated in our next issue.

Ceremonial Staircase, from the East: New County Hall, Westminster.
MR. RALPH KNOTT, F.R.I.B.A., Architect; MR. W. E. RILEY, F.R.I.B.A., Consulting Architect.

COMPETITION NEWS.

Wolverhampton.

The premiums in the Wolverhampton War Memorial competition has been awarded as follows by the assessor (Mr. John W. Simpson).

FIRST (150 guineas): Mr. C. T. Armstrong, A.R.I.B.A., 32, Eversley-road, Bexhill.

SECOND (100 guineas): Messrs. Ebbs & Warren, AA.R.I.B.A., Chelsea.

THIRD (50 guineas): Mr. Wilfrid Bond, F.R.I.B.A., 11, Elmer-road, Grantham.

HONOURABLE MENTION: Major Hugh C. Corlette, Lincoln's Inn, London, W.C.; and Messrs. T. Ridge and R. E. Haynes (Shayler & Ridge), The Cross, Oswestry.

An exhibition of the designs submitted will be held at the Municipal Art Gallery, Lichfield, until March 4.

Colour Competition.

A sum of £200 has been placed in the hands of the President of the Royal Institute of British Architects by an anonymous donor for the purpose of instituting a competition for a business building, facing on an ordinary London street, in which colour (of a permanent nature) would be the dominant feature. The competition will be open to all members of the profession. The Conditions of the competition (which may be obtained, with a diagram, from the Institute), state that competitors have a free hand as regards style and colour treatment. The ground floor might be a bank or insurance office, the remaining floors might be flats or offices. Three premiums (£100, £50, and £20) will be awarded for the best colour designs, irrespective of architectural excellence. A fourth premium of £30 will be awarded for the best architectural design. Colour must be suggested by the use of permanent material only. Designs in oil paint, fresco, scrafito, and so on, will not be admissible. With regard to the material competitors may suggest in their designs, it is stated that a scheme for facing concrete blocks with various materials, such as marble, terra-cotta, mosaic or copper plates, has been devised and successfully produced. It has been found that the cost of facing a building with either of these materials would be at least 25 per cent. cheaper than an ordinary stone facing. The terra-cotta facing can be made in any colour, and not highly glazed. It is possible to obtain this material with a gloss like that of old Wedgwood or similar ware. The maximum size (at present attained) is 21 ins. × 15 ins., in columns up to 24 in. diameter. It should be borne in mind that there might be slight irregularities on the face and variety in the tone of colour. This would give a play of light which some designers may think desirable. Marble facing can be of much larger dimensions. Competitors must suggest only such marbles as are known to withstand the deleterious effects of the London atmosphere. Samples of these marbles and a piece of old Wedgwood as a sample of glazing on terra-cotta can be seen at the R.I.B.A. Stone or granite may be used at the discretion of the competitor. The assessors are Sir Edwin Lutyens, R.A.; Mr. T. E. Collcutt; Professor Gerald Moira; and Mr. William Walcot. Sending-in day, May 1.

Auckland War Memorial Competition.

The promoters of this competition have asked the Royal Institute of British Architects to form a register of intending competitors, so that information received from Auckland may be distributed to the competitors without loss of time. Names and addresses of intending competitors should be sent to the Secretary, 9, Conduit-street, W.1.

Other Competitions.

Other competitions still open include the following (the dates given are, first the sending-in date, and second the issue of *The Builder* in which full particulars were given):—Auckland war memorial (May; Sept. 2, 1921); Trujillo (Peru) monument—banned by R.I.B.A. and S.A. (June; Jan. 13); Dundee war memorial (April 30; Jan. 6).

CORRESPONDENCE.

Architectural Education and its Effects on Overcrowding.

SIR,—I have read with interest your correspondence on the above subject, and I venture to bring to your notice a point which I have not hitherto seen mentioned. In addition to the unfortunate effect of increasing unemployment among architectural assistants which the present system involves, I maintain that it is a danger to the profession and to the practising architect in particular.

At the present time, on leaving one of the schools or on completion of articles, a man finds himself without work and practically unable to find it. For a time he looks steadfastly through all advertisements for a position as architectural assistant, but as his financial resources dwindle he considers those for draughtsmen. This failing, an imperative necessity to earn something, somehow, finally forces him to take anything. With what result? He goes as draughtsman to a large firm of contractors, one selling some special decorative material or patent form of construction, where his professional and technical powers of design are only too eagerly used to provide customers with the necessary decorative and structural schemes, or even plans of new works, free of cost—work which should, in the normal course, be that of an architect.

One cannot blame the man—he has himself to keep alive and possibly a family to support, and starvation (or the thought of it) will in time break down the respect and honour which a man has for his undertakings to his particular architectural society; and once having severed his connections with the profession, the possibility is he will not return but remain for the rest of his career doing work which seriously threatens the successful continuance financially of the smaller architect's practice.

To my mind it is an all-important point, and one which needs the action of both the R.I.B.A. and the S.A. The various recognised schools are not nearly so responsible for the overcrowding as we are led to believe. The numbers in these cases are directly controllable; the danger perhaps is more in the old private pupilage system, which, without going into the question of its efficiency as a method of technical education, allows hundreds to come into the profession each year quite uncontrolled by any law of supply and demand. Could not the architectural societies legislate against this by making it necessary to obtain permission from them, under penalty for non-compliance, before a pupil could enter the office of an architect? This, of course, still leaves to his own devices the unregistered architect, but surely it would help?

J. A. WOODGATE.

Boxley, Kent.

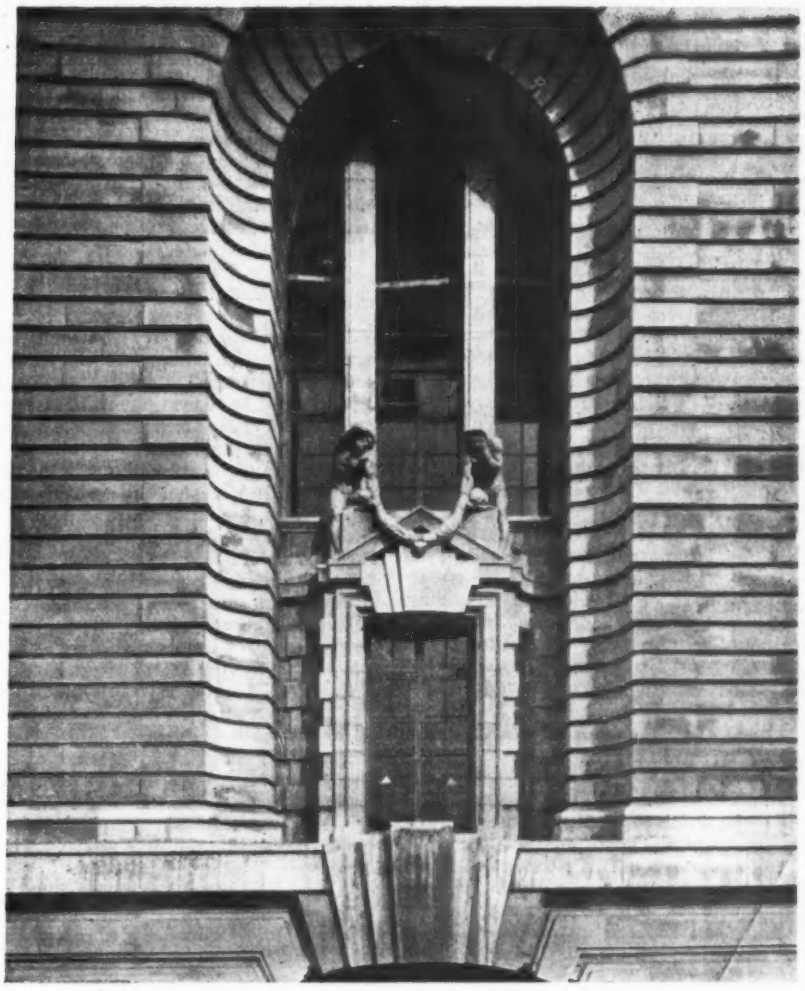
Unification and Registration.

SIR,—I am in thorough agreement with any scheme which would remedy the present unsatisfactory state of the architectural profession—closing it in future to all who did not reach a standard set by a competent body; but I would like to remind your correspondent, "A.R.I.B.A.," that membership of the Institute has been in the past and still remains a matter of choice. We are indebted to him for his able, profound, and abstruse letter—does he not consider upon reflection that he must have been in a rather supercilious mood when he set out, after a meeting of the Institute, so he informs us, a system whereby he places each man in his proper place—and after, no doubt, much burning of the midnight oil, and by aid of algebraic formulæ, so it would seem, expresses the result of his research in terms of curious combinations of letters of the alphabet?

But surely this must be a super A.R.I.B.A., with "budding honours thick upon him," or else "a fellow of infinite jest," as Will Shakespeare hath it. I note that Associates lead and the rest are only "also rans," even F.R.I.B.A.'s coming second to these glorious beings. Those who have climbed by some other way (oh, sorry plight!) are dealt with appropriately, and diving farther into the depths the unattached architects are led to the penitent form—if they can lay claim to have designed six large buildings, spent 25 years in practice, and led a blameless life as evidenced by their acquaintance with one contractor, and one house agent, and may beg the Institute to weigh their talents upon their office postal scales, and award them the proud designation of "M.U.G.S." and let them subscribe for ever after! Perhaps "A.R.I.B.A." will, after the stimulus of the next Institute meeting, go into the difficult problem of those unregistered "architects of the past" whose structures are set us as examples to study, some of whom have not left six large buildings on which to base a claim as to their real architectural position—or any correspondence from their favourite builders or house agents, and, as they did not gain their distinctions in the Examination Rooms of No. 9, Conduit-street, I fear they would be allotted by our learned friend to the "M.U.G." class, or even go without any letters at all.

Noting the gibe at the Beaux-Arts manner—can it be that our Associate friend wrote his rather sarcastic epistle after an unsuccessful attempt at the toothbrush style of art, and his feelings were ruffled by resultant spurts of lamp black in features and furniture, thus accounting for his sarcastic letter?

"A.M.U.G. OF LITTLE MUGGLETON."



South Pavilion, River Front: New County Hall, Westminster.
MR. RALPH KNOTT, F.R.I.B.A., Architect; MR. W. E. RILEY, F.R.I.B.A., Consulting Architect.

Housing and the Speculative Builder.

SIR,—Mr. H. R. Selley in his able contribution to your last issue says many things that everyone will agree with, but there is one statement that calls for comment. He writes: "It is clear that at these cut-prices there was no margin for architects' fees or costly designs." An architect who had made a special study of small houses should be able to plan one more economical to build than a builder, whose energy and skill are fully occupied in another direction. Of course, there is no scope for "costly designs" in small houses, but it is a mistake to suppose, like the president of an architectural society did recently, that the architect has no scope in the plainest and cheapest building.

W. J. H. LEVERTON.

The Labour-Saving House Competition.

SIR,—I have read Mr. E. E. Jollye's letter *re* the above in the last issue of *The Builder*, and again crave your indulgence for the following remarks thereon.

There is no gainsaying the fact that the larder and kitchen are so positioned that they would get south sun on them for the greater part of the day. The principal rooms, it appears, face south-east, which is far from a fortunate aspect, and gives the main entrance a north-west aspect, and not west, as Mr. Jollye says was stipulated. The den fireplace, whatever may be the source of heat, is unfortunately positioned for comfort.

A point which I did not raise in my previous letter, but which was intended to be implied, was that too much had been spent on the exterior of the house and on labour-saving devices, thus seriously curtailing the number and size of the rooms.

I certainly agree with Mr. Jollye that a pantry would have been an improvement.

As to the family to be housed, I think Mr. Jollye has harked back to the prolific days of the Victorian era, for in these days few parents of the middle professional class can record such an elaborate family as six children. In short, he places his standard altogether too high.

I am quite in agreement with the Welwyn Garden City authorities in their decision not

to erect the house to the winning design. The glaring error first referred to in my previous criticism, namely, the w.c. in juxtaposition with the larder, would first have to be corrected, and certain other improvements should be incorporated before the house is built.

My contention is that to-day a house costing about £2,000 to £2,200 should have seven bedrooms, w.c., bathroom and linen cupboard on the first floor; and three reception rooms, kitchen-scullery, pantry, larder, coal-store, servants' w.c., lavatory w.c., and small hall, provided that the house is built in a reasonably accessible area.

Mr. Jollye is correct in assuming that I did not enter designs for the competition under discussion. I should have done so but for the fact that I had won the competition on a previous occasion, and it might have caused a certain amount of adverse criticism had I been fortunate enough to be among the premiated designs.

Mr. George Cowan's remarks on this subject are sound. REGINALD FRY.

SIR,—Referring to the winning designs in your issue for February 3, one is inclined to wonder how much nearer we are getting to solving the problem of the ideal labour-saving house. Comparing these designs with the successful ones in the 1919 competition, my impression is that very little, if any, progress has been made. Taking the premiated designs in each case and comparing them, I think it will be agreed that the 1919 efforts take the "honours."

Mr. Reginald Fry's criticisms are interesting, and personally I should like to see these carried further. By so doing the competition will have served to bring out the good points, and should assist in eliminating doubtful points, and be of lasting benefit to designers. Many of the faults, however, to which Mr. Fry makes reference, were anticipated in the former competition. Regarding the design placed third, it would be interesting to know what are its particular merits.

To sum the matter up on the results of the competition, the last two years' efforts have not served greatly to assist in the advancement of "labour-saving," and closer association with the domestic side of the situation is called for.

P. G. HAYES.

Cambridge Architects' Club.

SIR,—At a dinner held last month at the Arts Club, it was decided to form a small club consisting of architects who had been educated at Cambridge University, primarily in order to give the School of Architecture at Cambridge the moral support of a section of the profession which is naturally most sympathetic with its objects. I have circularised all members of the R.I.B.A. whom I know to have graduated at Cambridge, but I am anxious to get in touch with members of the profession who are not included in that body, and I therefore venture to make use of your columns with this object. If, therefore, any of your readers who have been up at Cambridge and who would care to join this Club would communicate with me I should be extremely glad to receive their names and give them further particulars. The appointed officers of the Club are: Chairman, Mr. Maurice E. Webb; Honorary Secretary and Treasurer, Mr. J. Alan Slater. J. ALAN SLATER.

8, Wellgarth-road, N.W. 11.

The Bartlett School of Architecture.

A course of six lectures on "The Principles of Heating and Ventilation" will be delivered by Mr. Arthur H. Barker, B.A., B.Sc., Wh.Sc., at the Bartlett School of Architecture, University of London, on Tuesdays, at five p.m., beginning February 21, 1922. The syllabus is as follows: February 21: "The properties of heat and air"; February 28: "The essentials of heating and ventilation"; March 7: "Heating—Centralised plants"; March 14: "Ventilation — Natural and artificial"; March 21: "Boilers, fans, and other apparatus"; March 28: "Cost of installation—Cost of upkeep—Tests."

THE BRITISH SCHOOL AT ROME.

THE subject for the preliminary competition in the Rome Scholarship in Architecture, 1922, was a Lake-side Restaurant in a Public Park. The accommodation was to include a main hall (dining-room or ball-room) to seat 250 at separate tables—a tea-room about one-quarter the area of the hall, a bar of about the same area, ample terraces to enable refreshments to be taken outside, kitchen, toilets, service court, garage, caretaker's residence, manager's room, ornamental entrance grounds and landing stage.

The room which is devoted each year to the exhibition of architecture contains fourteen sets of drawings, which, generally speaking, offer ground for encouragement in the development of sound architectural design free of theatrical or meretricious qualities. Two or three of the plans are laid out with good simple dignity. One of the best is certainly No. 55 (H. E. Hamilton Higham, Liverpool University), which has a simplicity of scheme that commends itself. The restaurant or main hall is fronted by a loggia which considering its height would probably afford sufficient light. The kitchen is centrally placed against the back wall of the restaurant, and service corridors lead right and left to the service chambers at each end of the restaurant. The bar is to the east, and tea-room to the west, with tea-lawn in front of it. The main entrance is from a *porte-cochère*, and is arranged to come up by a winding stair up to the bar. Men and women's lavatories are at entrance level. The lighting is not very good, but the entrance as arranged keeps the bar from direct in and out traffic. The interior treatment is simple and good.

A charming set of elevational drawings illustrates design 66 (Wesley Dougill, Liverpool University). In this case the kitchen is in the basement. It has a well-lighted restaurant, at the back of which is a palm court which forms the centre of a fine vista through the whole length of the buildings. The tea-room and bar which flank the restaurant are fronted by a pergola, and there is a roof garden with pergola which should be an excellent feature for a lake-side restaurant. This design has a good exterior Italian treatment. Amongst the best designs is No. 64 (Reginald A. Cordingley, Manchester), illustrated by an excellent set of drawings. It has a central kitchen on the main floor with a good service corridor to left and right. The exterior is well treated in a simple, restrained manner. The only design of its kind is No. 67 (Stephen Welsh, Glasgow School of Architecture and Liverpool University) which has a large kitchen flanking the east end of the restaurant on the main floor. The service would be very convenient and direct from this, a matter of some moment if all sorts of meals are served in the restaurant. In No. 65 (Wilfrid B. Edwards, Liverpool University) the ball-room does not appear particularly well lighted, for it would possibly be used during the day for meals or for dancing.

The festive aspect of such a subject as that set is more apparent in the design No. 62 (Eric Ross Arthur, New Zealand and Liverpool University) than in any other. In his prettily drawn elevation and detail the author of this design seems to be influenced by a desire to do something which would hardly be taken for a town hall or a university building. The proportions are not quite happy, and gables and other details are rather over-lively. Visitors alight alongside the long steps in front of the restaurant without any apparent preliminary of hats' and coats' vestibule. Effective as would be the view across the restaurant through its ranges of columns to the north wall, we imagine that one blank side to the restaurant would add much to the comfort of those taking meals. The tea-room and bar would hardly be adequately lighted. The surrounding pergolas, though costly, add much to the general air of jubilation. Another scheme which perhaps comes nearest to the above in its conception of a festive suggestion is No. 63 (John H. Forshaw, Liverpool University), but it is better in its exterior proportions and treatment. This design has a recess at the end of the restaurant where a band could be installed; provision for which does not seem to have been generally thought of: There is a good deal of merit in this scheme. the main entrance is off the ground level through a vestibule and entrance hall into a palm court on the north side; between this and the restaurant is a foyer. We should have thought this design had a good chance to be placed. It is in striking contrast as regards plan with the simplicity of No. 66, which is certainly about the most likely to come within practical politics. In none of the designs does the bar-counter length seem anything like adequate.

Design No. 58 (Harold Conolly, Leeds School of Art), is in the first rank of all as regards architectural quality and draughtsmanship, and as a building for some other purpose it would be excellent. A word of praise must be given to the detail drawing of No. 57 (Edward W. Martin, Liverpool University). This competitor seems to have realised the advisability of good direct service for the main hall and tea-room, and he has thought of a place for the band.

The author of No. 61 shows such good work that he may well feel encouraged.

The Faculties of Art administers the Rome Scholarships in Architecture, Sculpture, and Decorative Painting, and also a Scholarship in Engraving. These scholarships are of the annual value of £250, and run for three years. The Henry Jarvis Studentship is of similar value for two years only. A large number of sketches, paintings and models are on view in five other galleries and will well repay inspection. An excellently proportioned memorial is seen in the work of Jas. Bateman (30), of the Leeds School of Art, who also shows good suggestions of wall paintings. The fine relief panel by Chas. Sergeant Jagger, M.C., arrests attention for its fine design and poignant illustration of the horrors of barbed wire in warfare. A group of charming drawings by Kenneth G. Hobson (7) should not be overlooked. There is a delicacy, breadth and placidity about this artist's work which appeals to one strongly.

Work far above the average is shown by Leonard Squirrell (13) in etchings and wash drawings; the latter include a very good interior of Blythburgh Church.

MEETINGS.

FRIDAY, *February* 17.

College of Estate Management.—Mr. M. C. Duchesne on "British Timber." At 35, Lincoln's Inn-fields, W.C.2. 6 p.m.

SATURDAY, *February* 18.

Clerks of Works' Association.—Annual Dinner. At Holborn Restaurant, W.C.1. 6 p.m.

MONDAY, *February* 20.

Royal Institute of British Architects.—Mr. A. J. Davis on "Internal Decoration of Ocean Liners." At 9, Conduit-street, W.1. 8 p.m.

TUESDAY, *February* 21.

Liverpool Architectural Society.—Mr. E. R. F. Cole on "Colour and Architecture." 6 p.m.

Surveyors' Institution.—Annual Dinner. At Connaught Rooms, W.C.2. 7 p.m.

WEDNESDAY, *February* 22.

University College Lectures.—Mr. Martin S. Briggs on "Historical Building Construction: Joinery." 6.15 p.m.

L.C.C. Central School of Arts and Crafts.—Sir Banister Fletcher on "English Mediæval Architecture: Westminster Abbey." 6 p.m.

Manchester Society of Architects.—Professor J. Orr on "Classic Revival in French Painting of the Early 19th Century." 6.15 p.m.

THURSDAY, *February* 23.

Concrete Institute.—Mr. H. Kempton Dyson on "What is the Use of the Modular Ratio?" 7.30 p.m.

Society of Antiquaries.—Mr. J. Humphreys on "Recent Discoveries of Saxon Remains in the Valley of the Warwickshire Avon." At Burlington House, W.1. 8.30 p.m.

Architectural Association.—Smoking Concert. At 34-35, Bedford-square, W.C.1. 8 p.m.

THE FUTURE OF HOUSING.

AN APPEAL FOR UNITY.

By MANNING ROBERTSON, A.R.I.B.A.

History indicates that the gravest danger to any cause lies less in organised opposition than in differences of opinion as to how a desired end can best be obtained. Sir Charles Ruthen's attack upon his predecessor's *régime* at the Ministry of Health (an aspect of the indictment that has been somewhat overlooked) is an example of such divergence of opinion. His attack upon the architectural profession as a whole is another matter, and has been sufficiently shown to be without foundation.

Interest in the housing question has recently made astonishing strides, and no one interested in the subject can fail to appreciate the supreme importance of maintaining the high standard that has recently been arrived at. But when we examine the position as it stands at present, what do we find? The Ministry of Health's scheme, representing some 200,000 houses, is for practical purposes dead, and the organisation that brought the scheme into existence is disbanded. The housing question is again in the melting pot. There is no shortage of enthusiasts, but they are pulling in different directions—some of them advocating State housing, some a continuance of State-aid, and others pressing for private enterprise. There is a real danger lest, in thus pulling against one another, they lose sight of the desired end and the dangers that lie ahead. The end is the erection of healthy homes, designed with due attention to the amenity and architectural quality of lay-outs and houses, and the formation of a sound public opinion that will not in future tolerate the Victorian type of cottage "architecture." This end is more important than the means to be employed.

The educated public blame architects for the dreary monotony of the past, and their censure is in great measure justified. The writer was recently severely spoken to by a layman interested in architecture, whose point was as follows:—"You say that architects were not to blame—I say they were to blame. To whom are we to look for protection from bad architecture if not to architects? We look to the medical profession to save us from epidemics of disease, and why should we not look to the profession most nearly concerned to save us from epidemics of bad architecture?" The layman was right; and, in so far as his paper concerned the architect's pre-war inactivities, Sir Charles Ruthen was right. The man who claims that architects only reflected the material commercialism of the nineteenth century and consequently were no more to blame than anyone else is right. Everyone is right, everyone is to blame; but the opportunity is now given to the architect and the builder to ensure that they at least shall not be to blame for the future.

The present outburst of "economy" is accompanied by dangers to the future of the country; the proposed education economies are not especially our concern, but the possibility of a lowering of standards and an increased density in Government housing is a real danger that affects us intimately. Political considerations are paramount in a Government department, and if it is politically desirable to lower the standard, lowered it will be, in spite of the best endeavours of those in the department who are well disposed to the movement. An outside public opinion, that makes itself felt, is the only force sufficiently strong to counteract the magnetism of political expediency. Anxiety on this score may appear to be inconsistent with the statement that the Ministry's housing scheme is practically dead, but the finishing touches can efficiently spoil a picture.

A public opinion strong enough and sufficiently well acquainted with the subject to be able to carry through the regeneration of British housing can only be formed by a coalition. Architects alone or builders alone would not have the requisite qualifications, but a coalition between the two would wield immense power and could carry through any reasonable programme of reform. Housing is essentially different from other forms of architectural work. It is to a great extent repetition, engineering problems are absent, it is in every way simpler, but to obtain satisfactory results it requires architectural training. The reason why architects had no part in such work in the past was solely because they took no steps to procure it; they did not realise the tremendous discrepancy between the amount of work involved in a housing scheme and that necessitated in the design of a church or hospital at the same price; and no adequate allowance for this discrepancy was made. The second great danger with which housing is confronted is, therefore, the certainty that architects will be shelved and will be given no further participation in housing development unless they exert themselves.

It is often true to say of a system that "it was all right when it was introduced but has become obsolete," but this cannot be said of the architects' attitude towards housing; it was not all right fifty years ago, and it has not yet been put right. Practically everyone (until recently one would have said "everyone") capable of forming an opinion agrees that the architectural profession made good under the Government housing schemes, and that during the past three years architects have shown how necessary they are if the people in this country are to be housed in a manner compatible with their moral and physical welfare. It will be the more lamentable if this turns out to be merely an ephemeral manifestation of which nothing more is to be heard.

It cannot be long before the builder is again at work, and he would probably be the first to welcome a friendly and helping hand from the architect. The builder is not without ideals, but, by himself, he would of necessity be almost as helpless as the architect. At a later stage the ground landlord will have to be considered, and he can most efficiently be dealt with through the weight of public opinion that would crystallise automatically around a common policy arranged between the architect and the builder. While few would deny that something ought to be done to remedy the old state of affairs, it is to be feared that many may fail to realise the importance of getting something definitely done. The material advancement of the profession, which would be very great, is not the main issue; impeding vested interests, in so far as they exist, must be swept aside, and true values only must be kept in view.

While some hold that an architect-builder coalition should be arranged on the basis of an agreed lump-sum per house, others may prefer the official issue of "type plans" by the architectural profession in the manner that has already been adopted in America; but so long as the end is secured it does not really matter which course is adopted, or if it be a different scheme altogether. No adequate steps can be taken without a preliminary conference between the architects' delegates and the representatives of those who are going to build the houses; the architects could then consult their wishes, know their requirements, and come to some arrangement. One can only hope that such a conference will be arranged at the earliest possible moment.

THE HISTORY OF ART.

A public lecture, entitled "The Palace of Minos" (introductory to a course on "The Development of Art in Crete and Greece"), was delivered by Mr. H. G. Spearing, M.A., at University College, Gower-street, W.C., on Wednesday last week.

The lecturer said no one knew who Minos was, although the writer of a well-known dictionary had stated that he was born in 1406 B.C. That was very misleading, as one hundred years ago the world was ruled by people who relied on writings, whether correct or not; but about the middle of last century they began to notice things, facts, and deeds for themselves, instead of depending on mere words. About 1900, Sir Arthur Evans got the site of Knossos and commenced excavating the Palace of Minos. Digging was carried down to the virgin soil, pavement after pavement and wall after wall being unearthed until the whole plan of the Palace, which resembled a Roman camp, was laid bare. Very few weapons of warfare were found, but a great number of vases of different shapes (mostly in fragments), small ivory and stone statues, some enormous pots (used probably for storage of corn and oil), and a number of other things were dug up. The walls were found to be decorated all over with wonderful representations of animals and fish, the reason for which was attributed to the religious motives which dominated all the actions of primitive man; the representations, and more especially those of the bull, were put up as charms to ward off "the evil eye." There were also human figures with remarkably small waists, showing the influence of Egyptian art, and painted modelling, but there was very little valuable work left. The early decoration of pots was scratched lines, angles, &c., which was later followed by naturalistic work. Very little was known about Cretan ideas or how far they were civilised, but the people had developed far enough to have a very good system of drainage, and Sir Arthur Evans thought their water-pipes superior to those of modern times.

The lecture was illustrated by lantern slides showing a plan of the Palace and many other interesting discoveries.

Historic Tapestry for the Louvre.

A piece of tapestry representing the battle of Jarnac (1569) has been bought for the Louvre, Paris, for the sum of £1,000. The tapestry is 21 ft. 5 in. wide and 10 ft. 3 in. high; it is in an excellent state of preservation, its only defect being that the upper border is missing It formed part of a series of 27 tapestries made at the Chateau de Cadillac, near Bordeaux, by order of the Duc d'Epernon.

HISTORICAL BUILDING CONSTRUCTION.—IV.

BY MARTIN S. BRIGGS.

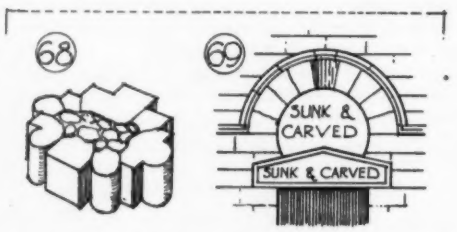
MASONRY (*continued*) AND CONCRETE.

ROMANESQUE masonry, on the whole, shows a marked decline from the earlier periods already described, but is probably not so bad as some writers have represented it to be. Viollet-le-Duc states that the Romanesque architects, far less skilful in controlling thrusts than their Gothic successors, relied more on mass, solidity, and sound jointing and workmanship. Sir Thomas Jackson, a great authority, does not agree that this applies to England, where, he says, he has found "the Early English masonry as good as the Norman, and the mortar much better." Certainly Saxon masonry in England is rough and unskilful, while the sketch of a pier from S. Ambrogio, at Milan, a famous Italian Romanesque church, does not display any great knowledge of construction (Fig. 68). Rubble was commonly used, often built dry. Where thin ashlar facing was used with a rubble core, there was a tendency to unequal settlement, caused by the greater number of joints in the rubble core. This fruitful source of subsequent trouble was avoided by the more expert Gothic masons of later days. Mortar was used as a means of distributing pressure, as well as for its binding properties.

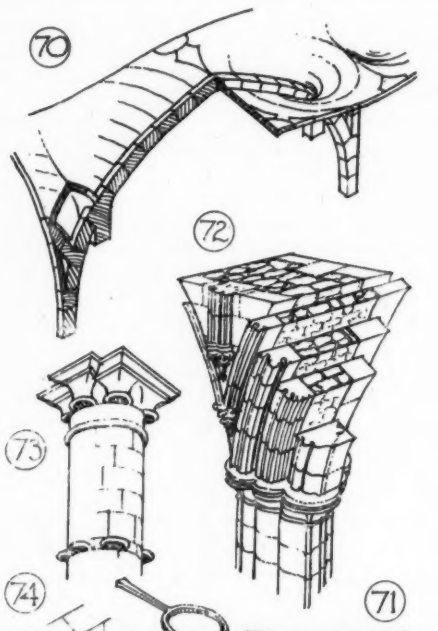
Polychrome masonry, beloved of the Saracens in Egypt and probably derived from the Byzantine methods described in Article III, was used in Romanesque times at Vézelay in France, at Lorsch near Worms, and at St. Peter's at Northampton, but especially at Le Puy and other churches in Auvergne, where the materials employed were the local volcanic black basalt alternating with a yellowish white freestone and with red brickwork.

The important question of Romanesque arches, vaults, and domes cannot be discussed here, but Fig. 69 shows the characteristic form of the Romanesque lintel and tympanum, from the main portal of N.D. du Port at Clermont Ferrand (*c.* 1100). In this case the quasi-horseshoe arch may have been derived from the Saracens, whose influence was strong in this part of France. In conclusion, it may be noted that the roughness and lack of finish found in most Romanesque buildings is due not only to ignorance on the part of the builders, but also to prevailing social conditions—the risks of the road, and, indeed, the lack of roads, as well as of security, making transport difficult and manual labour scarce. In this period began the practice of dressing all stone, so far as possible, on the ground before building it into position.

During the later Middle Ages transport was difficult and stone consequently expensive, while labour was plentiful and cheap. There was no wheeled transport to speak of, so that pack-animals had to be utilised where water transport was not convenient. These conditions explain the extraordinary economy in masonry construction, and the comparatively small size of the stone blocks used, while the abundance of labour, coupled with the high level of craftsmanship ensured by the system of trade guilds,



explains the elaborate nature of Gothic mouldings and the profuse employment of carving. The size of the stone blocks, whether ashlar or rubble, allowed of timber scaffolding being employed in a way that was impossible in the older countries around the Mediterranean where timber was scarce. From the ancients, however, was borrowed the use of metal cramps and dowels, adapted somewhat to the needs of lighter masonry construction. Mortar was plentifully used as a means of distributing weight as well as a binding medium, and care was taken to equalise the number of joints in facing and backing, so that unequal settlement was avoided. Difficulties of transport encouraged the use of local stone, even where this was not very



durable; hence much subsequent decay and trouble.

Spreading footings, sometimes on a foundation of timber piles, marked another advance, though the mediæval builders, having no knowledge of concrete as we understand it, were incapable of designing foundations scientifically, as in modern practice. They did, however, often attempt to distribute the load of arcade-piers by a system of low walls connecting their bases below ground (or, as at Salisbury, above ground), and occasionally similar lateral walls were used to tie the piers of the main arcade to the outer walls and buttresses.

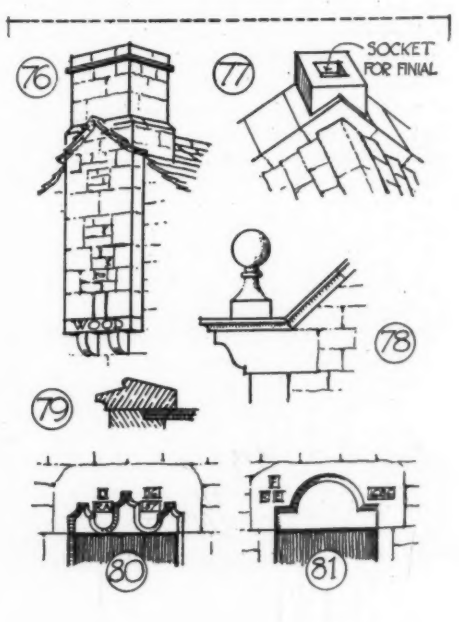
The cutting of beds and of vertical joints was as carefully executed as the dressing of the visible faces. On the jointing depends much of the ultimate effect of any Gothic building. One has only to refer to some early Victorian books of measured drawings of Gothic details, where jointing is omitted, to see the loss of effect thereby caused, and the practice among some modern church architects of having masonry-joints slightly raked out to accentuate them has much to commend it. Occasionally Gothic masonry was unsound, as in the shape of the familiar "water-holding base." More often jointing was clumsy or unscientific. But in the vast majority of instances joints were well placed, and nowhere is this more apparent than in tracery, especially in Perpendicular tracery. Though vaulting cannot be discussed here, two sketches are given showing interesting details of masonry in vaulting. Fig. 70, adapted from Choisy, shows the method by which the deceitful stone pendants are fixed in the fan-vaulting of Henry VII's Chapel, and Fig. 71 shows the construction of a boss or keystone at the crown of a groined vault. This boss is often pierced to carry a lantern at festivals. The Gothic architects were not perhaps such jugglers in stone as their Saracen contemporaries in Egypt, but sometimes they were apt to disregard the proper limits of their material in their pride of craftsmanship, and there are church-porches in France where carved stone angels, in the attitude of horizontal flight, are hung on metal hooks.

Polychrome masonry never attracted the Gothic masons of England and France, though the use of Purbeck shafts approximated to it. Mr. Bond admits that in one cathedral the effect of these suggests drain-pipes. They were held in position by metal rings or bands built into the masonry, as at Salisbury (Fig. 75); or occasionally the stone annulets built into the column or the wall were pierced so that the shafts passed through them, but generally they were solid (Fig. 74). The marble shafts were laid (on their wrong bed) when the column, with its stone annulets built in, had settled after erection (Fig. 73). This settlement was due to its numerous joints, whereas the shafts, from annulet to annulet, were monoliths.

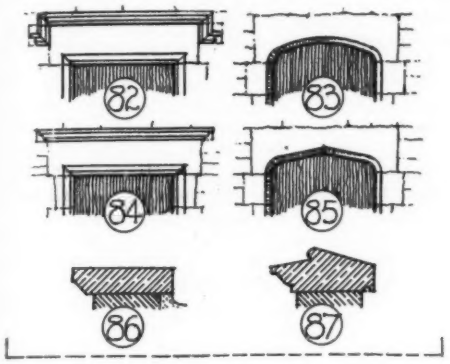
Fig. 72 illustrates the construction of an arch shaft from the choir of Whitby Abbey, with a rubble filling. This sketch shows the logical advance from the simple stone arch with recessed orders of the Romanesque period to the more elaborately moulded but structurally similar Gothic form.

It is not an abrupt transition from the masonry of the Middle Ages to that of those remote districts of England where traditional methods prevailed up to the end of the seventeenth century. The two chief districts are West Yorkshire (including parts of Lancashire and Derbyshire) and the Cotswolds (including all Gloucestershire, most of Oxfordshire and Northamptonshire, and parts of Worcestershire). There were stone buildings in Cornwall, Devonshire, Sussex, and elsewhere, but not of equal importance with the two districts mentioned.

The Yorkshire area is almost entirely hilly or even mountainous, and abounds in hard millstone grit, coarse in texture and difficult to work. But this stone was easily split into flagstones, which were used for roofing. Transport in this wild dale-country was of the worst, and labour could not have been plentiful, while the climate was rigorous. All these conditions are reflected in the style of the cottages and farm-houses erected from about 1550 to 1700 (Figs. 76 to 81). Walls of rubble masonry at least 2 ft. thick were used, the courses 3 in. to 6 in. thick for cottages, with larger bond-stones, and large dressed quoins of irregular lengths. The roofing material being very heavy and the district subject to wild weather, the pitch of gables was very low, usually 35 deg. to 40 deg. These low-pitched gables harmonise well with the gaunt fells and valleys where they stand. The windows are small and low, often only one range of lights high, but of great length horizontally. Chimneys are of solid stone, generally square, often set diagonally, sometimes on small stone corbels as in Fig. 76. The



gable copings are of stone, square or moulded (Fig. 79), and no lead flashings are used. But though these houses are generally plain to excess, many of them possess details almost Baroque in their wealth of fancy. Nearly every one has elaborate finials at the spring (Fig. 78) and apex (Fig. 77) of the gables, the former slightly overhanging the wall-face.



Sometimes in late seventeenth-century houses elaborate traceried rose-windows are found. But it is especially in the treatment of the lintels over the doors that this craving for expression is noticed, sometimes restrained, as in Figs. 80 and 81, at other times breaking out into a riot of originality that must have nauseated the Palladians of the day. This was undoubtedly "modernism"!

From these Yorkshire heresies it is a great change to turn to the Cotswolds, where a more feminine and civilised style of building prevailed throughout the seventeenth century (Figs. 82 to 87). In this district is found an oolitic limestone, best quarried between April and October. From 1580 to 1690, the period when most of the houses with which we are concerned here were built, the wool trade had made the Cotswold towns very prosperous, and the merchants of Burford and Chipping Campden were able to spend money freely on their churches and on their own dwellings. Thus the whole character of these houses is lighter, more graceful, and more refined than the rougher buildings of West Yorkshire. But construction was not always sound. The walls often had two faces with a rubble core. Often no foundations were used. The absence of gutters and drain-pipes led to the dripping of water on to the lower parts of the walls, which then decayed.

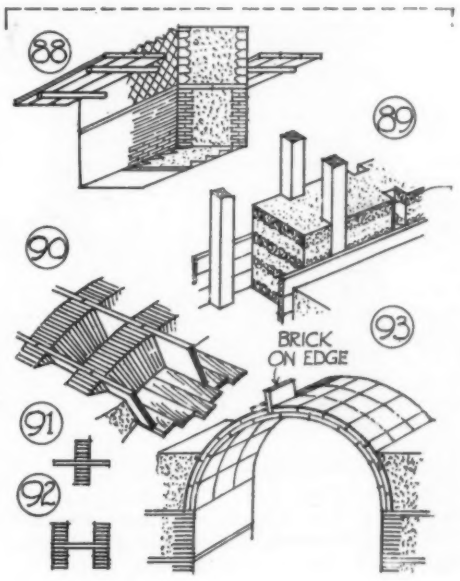
Generally walls were at least 18 in. thick, more often 2 ft. or over. Either rubble stone in rather thin courses was used or ashlar in thicker courses. Where stones were in thin courses, 2 in. to 6 in. thick, dressed stone was used around doors and windows. Mortar joints were always wide. In Northamptonshire red ironstone and limestone were used in alternate layers, recalling the polychrome masonry of Auvergne and of Saracenic Cairo. The walls of farm buildings and of barns were often built dry, without mortar. The surface of the masonry of the ordinary houses was not dressed, but was either quarry-faced or roughly cut with a chisel. The floors were paved with large stone slabs, often in a geometrical pattern. Over door-heads lintels were invariably used (Figs. 82 to 85), not arches, but these were often shaped to form arches, as Figs. 83 and 85 show. Windows were usually 12 in. to 16 in. wide, and 2 ft. to 3 ft. high. Bays and oriels were frequently used. Chimneys above the roof-level were square on plan, and were built of slabs of sawn and dressed stone, 3 in. to 4 in. thick and 8 in. to 10 in. deep, standing on edge and breaking joint, with moulded caps. Mouldings were used on mullions, dripstones and elsewhere. Finials, panels and other ornamental features were designed with the same freedom and originality as in the Yorkshire examples, but always with a lighter touch. Gables were steeper, and roofs were covered with small stone slabs in diminishing courses. Lead was never used for flashings, the stone slabs being turned up under the copings with a flashing or fillet of mortar (Figs. 86 and 87).

Space does not allow of any mention here of the development of masonry during the sixteenth and seventeenth centuries in Italy and France, nor of its use—especially in conjunction with brickwork—in the larger Tudor, Elizabethan, and Jacobean houses in England. Of the period of Inigo Jones, Wren, and their successors, it may be said in general that there was a marked preference for Bath and Portland stone, which allowed of the accurate cutting and jointing and the smooth surfaces that accorded with the requirements of their more academic style.

Concrete.

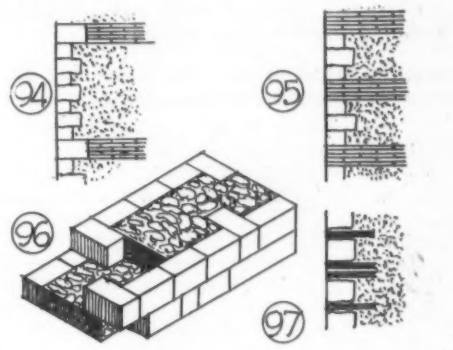
The so-called "concrete" construction of the Romans dates back at least to Republican times. As applied to walls it consists of layers of small stones and of lime alternately, filled in between two outer facings of brick or stone without falsework or centering. This is only another instance of adaptability to circumstances, for falsework would have involved timber, and suitable timber for building was scarce in Italy. The outer facings took the form of (*a*) *opus incertum*, rough stones about 4 in. cube, arranged on no particular method—this system is described by Vitruvius (II., viii, 1) as "the ancient style," disused in his day, though he considers it stronger than *opus reticulatum*; (*b*) *opus reticulatum*, like (*a*), but with the stones arranged regularly in herring-bone fashion; (*c*) triangular bricks, with a flush face to the exterior, thus giving a good indentation or bond with the core of the wall; (*d*) marble slabs, used as a lining internally in later work; and (*e*) masonry. Only with the last-named facing was tamping or ramming of the concrete core resorted to. At intervals of 5 to 10 ft. apart vertically, lacing-courses of flat thin bricks about 2 ft. square and 1½ to 2 in. thick, sometimes in double or triple layers, were used to bond the core with the facings. In Fig. 88, *opus reticulatum* is shown above and triangular bricks below.

The mass of the wall between the two facings was formed of layers of mortar, 4 in. to 6 in. thick, composed of lime and pozzolana or of lime and course sand, alternating with layers of pebbles of compact tufa or black lava, such as are used for modern road-repairing, to pass a 3 in. or 4 in. ring. The layer of small stones or pebbles was spread with a shovel and afterwards grouted to fill up the interstices. It was slightly thicker than the beds of mortar below and above it. The reason for using these small stones in filling does not appear to have been the ease of handling them, but rather because the proportion of mortar used in bedding them corresponded roughly to that used in bedding the facings, and so ensured equal settlement of facing and core. The volcanic rock used for this work was very "thirsty," and if used in large blocks would have absorbed all the moisture in the mortar.



The process just described can in no way be regarded as concrete building as we understand it, where thorough incorporation of aggregate and matrix is an essential feature.

Tamping was used only for walls faced with strong ashlar, or for foundations, which were filled in between boards fixed to posts about 3 ft. apart (Fig. 89), as appears from the evidence



of remains. Scaffolding consisted of movable platforms carried on putlogs built into the walls (Fig. 88), the holes so made being afterwards filled up. Other holes running transversely across the wall seem to indicate the frequent use of timber ties for binding together the two outer faces of the wall.

In the construction of concrete vaults the Romans used exactly the same system of untamped horizontal layers, and everything depended on the homogeneity of the mass. Thus the function of the timber centering became important, and timber in Italy was scarce. Hence the evolution of brick skeleton arches to take the place of timber centering. These arches were either hollow, as in Fig. 90, or flat, as in Fig. 93. In the former case an arch-rib was formed in various ways, sometimes, as in the sketch, of flat thin bricks about 2 ft. square, and other about 2 ft. by 6 in. This "honeycomb-rib" was left hollow. In later work it was superseded by other and simpler sections (Figs. 91 and 92), the object being to economise brickwork, for although bricks were cheap conscripted labour was cheaper still. A similar system was used for the ribs of concrete groined vaults. The flat vaults (Fig. 93) appear to have been designed solely for economy, and cannot be regarded as good construction. Normally two layers of bricks were used; the lower ones about 2 ft. square and 1½ in. to 2 in. thick, the upper ones rather smaller. They were laid in plaster or in quick-setting mortar. At intervals bricks were placed vertically on edge to give a bond with the concrete mass, another brick being laid alongside to act as a "cleat."

Byzantine walls were built more or less on Roman lines, though sometimes the stones were laid diagonally. A great feature was the use made of brick lacing-courses (Figs. 94 and 95). In the first sketch the brick courses are about 10 ft. apart and invisible on the face; in the second they are visible externally and are about 5 ft. apart. The mortar joints are as thick as, or often thicker than, the bricks themselves. Choisy says that Roman and Byzantine mortar was no better than our best, but far better than our worst! Fig. 96 shows a method of ashlar facing for "concrete" walls. Fig. 97 shows how bricks and stone were often used in alternate courses. Mortar joints were set back slightly from the wall-face, thus giving a sharp line of shadow under each brick or stone. Bonding timbers were largely used in walls to increase resistance to earthquakes.

Space does not allow any treatment of the revival of the use of concrete in this country a century or so ago.

[The sketches accompanying this article have all been specially drawn by myself, but Nos. 70, 71, 73, and 88 to 97, are based on the works of Choisy; Nos. 72, 74, 75 on Bond's "Gothic Architecture"; Nos. 82 to 87 on Dawber's "Old Cottages of the Cotswolds"; and No. 68 on Cummings' "Architecture in Italy."]

PROPOSED HIGHER BUILDINGS FOR LONDON

At a business meeting of the Royal Institute of British Architects, on March 6, the Council will invite a discussion on higher buildings for London. With a view to assisting members to arrive at an opinion on the subject, reports, of which the following are abstracts, are published in the current number of the " Journal " of the Institute.

Interim Report of the London Building Act Committee of the R.I.B.A.

In pursuing its inquiries, this Committee in the first instance devoted its attention to the questions of higher buildings and cubical contents, leaving to a later date the consideration as to whether the amendment of the London Building Acts was required, for the reasons—(1) that the adequate development of London is seriously restricted by the London Building Act and the General Powers Act; (2) that its development must be facilitated to keep pace with demands for accommodation; (3) that a reasonable increase in the height of buildings is the only method of meeting the demand for increased accommodation.

The Committee had before it memoranda from Mr. Horace Cubitt, Mr. C. A. Daubney, Mr. Samson, of New York, the Incorporated Association of Retail Distributors, Mr. Swarbrick, of Manchester, Mr. Aubrey Thomas, of Liverpool, Mr. Delissa Joseph, and Sir Henry Tanner.

At an early stage of the discussion it was pointed out that the proposed increase in the height of buildings and the proposed modifications with regard to the cubical contents could both be attained without altering the Acts of Parliament, because, under Section 47 of the Building Act of 1894, the height of a building is limited to 80 ft., with two stories in the roof, but the clause permitted the Council to sanction higher buildings; while under the General Powers Acts of 1908 the regulations limiting to 60 ft. the height of buildings of large cubical contents were arrived at by resolution of the Council, and could therefore be modified by resolution. The submission that these two important items can be dealt with by administration, without the expense and delay in altering the Acts of Parliament, confirmed the Committee in its anxiety to deal at once with these matters, irrespective of the general question of the reform of the Building Acts.

After a series of detailed discussions the Committee invited Mr. Delissa Joseph to prepare a draft scheme which would incorporate its views, and this scheme, after very careful consideration and further discussion, was adopted in the following form:—

(I) That, as Section 47 of the London Building Act of 1894 is as follows: " A building (not being a church or chapel) shall not be erected or subsequently increased to a greater height than 80 ft. (exclusive of two stories in roof and of ornamental towers, turrets or other architectural features or decorations) without the consent of the Council," and is therefore of a permissive character, the London County Council should now announce its willingness to modify its regulations so as to enable it to consider applications for higher buildings on the following lines:—

(i) In the case of a building in a street of greater width than 80 ft., an increased height should be permitted equal to the greater width of the street, with two fire-resisting roof stories above same, but in no case a greater height than 150 ft., exclusive of two stories in the roof.

(ii) That, in the case of buildings opposite parks, squares, and public gardens not less than 150 ft. wide, or facing commons, open spaces, and the riverside, or when facing down the length of a street, such buildings should be permitted to a height of 150 ft. exclusive of two stories in the roof.

(iii) That, in the case of the City of London, buildings 120 ft. high, exclusive of two stories in the roof, should be permitted in any street, irrespective of its width or date.

(iv) That such consents should be subject to adequate safeguards as regards health, means of escape and fire attack.

(II) That the Regulations of the London County Council under Part 3 of the London County Council General Powers Act of 1908 having been arrived at by resolution of the Council, should be so modified, by resolution of the Council, as to permit buildings of greater cubical content to be constructed notwithstanding that such buildings exceed 60 ft. in height, subject to the other safeguards as provided in the regulations.

When the above conclusions had been arrived at the Committee ascertained, so far as possible, the views of public authorities and societies with regard to the proposals, and deputations waited on the following bodies:—The London Building Acts Committee of the London County Council; the City Lands Committee of the Corporation; the Fire Brigade Committee of the London County Council: the Metropolitan Branch of the Society of Medical Officers of Health; the London Society; and the Incorporated Association of Retail Distributors.

In the case of the City Lands Committee a resolution was passed sympathising with the views expressed, subject to health and protection from fire being properly considered.

The Chairman of the Fire Brigade Committee of the London County Council promised that the whole scheme would be considered by a joint meeting of the Building Acts Committee of the London County Council and the Fire Brigade Committee of the London County Council. Subsequently a letter was received from the Clerk of the London County Council stating that the Council did not consider circumstances justified any action being taken in the direction suggested by the Committee, and that the Council had decided to continue its present practice of dealing on its merits with each case which came before it.

The Metropolitan Branch of the Society of Medical Officers of Health passed a resolution expressing the opinion that, having regard to the fact that construction of rooms underground would thereby be discouraged, the proposals of the Committee were reasonable, provided adequate safeguards were established in relation to lighting, ventilation and sanitary accommodation.

The London Society informed the Committee that it was strongly of opinion that a general increase of the height of buildings such as was proposed would be inadvisable and detrimental to the amenities of London, and, further, that the height of buildings in London should be related to the width of the streets.

The Incorporated Association of Retail Distributors passed a resolution to the effect that it cordially supported the scheme, and considered the proposed modifications in the administration of the London Building Acts and the General Powers Act were essential and in the best interests of the country.

As a result of its investigations the Committee has come to the following conclusions:—

(1) That there are no practical difficulties affecting structure, fire-proofing, means of

New County Hall, Westminster.
Members' Carriageway Entrance, Westminster Bridge Road Front.
MR. RALPH KNOTT, F.R.I.B.A., Architect; MR. W. E. RILEY, F.R.I.B.A., Consulting Architect.

escape, water supply, and the attacking of fire in case of buildings 150 ft. high.

(2) That the case for buildings of this height facing the river, open spaces, squares, and parks cannot reasonably be objected to.

(3) That the case in favour of high buildings in streets such as Portland-place, 125 ft. wide, is equally reasonable.

(4) That the same view holds good for high buildings in such places as Lincoln's Inn Fields, 645 ft. wide.

(5) That the case for the City of London stands alone, as it is the one square mile in which is concentrated the centre of the financial, shipping, and banking activities of the Empire. The need for higher buildings in the City area is imperative, as it is vital that business men should be able to find offices within a few yards of the exchange or centre where their particular business is dealt with. To increase the height of buildings in such situations is the only way in which additional office accommodation can be provided in the restricted areas in which it is urgently needed.

(6) That the restriction on the height of large cubical content buildings occupied by the great stores constitutes the restriction of trade adversely affecting national prosperity.

(7) That the increase in domestic accommodation at park-side and river-side and in the wide streets leading from the centre, such as Clapham-road, 117 ft. and upwards in width, will contribute towards the solution of the housing problem in central London.

(8) That higher buildings will produce larger assessments that will form the security for municipal loans, to be devoted to the widening of congested thoroughfares.

(9) That it thus being essential to provide for the great interests concentrated in the City of London, to provide for the accommodation for the great commercial interests in central London, to provide further domestic accommodation for those who do not require to live on the outskirts, and desire to be readily accessible to their work without being involved in long railway journeys, the administration of the Acts of 1894 and 1908 should be now adapted to the changed conditions, and that the London County Council should be urged to exercise its permissive powers in a more generous spirit, on the lines of the scheme prepared by this Committee.

The Committee is satisfied that the case for higher buildings in the situations defined by it and for buildings of larger cubical content, calculated either vertically or horizontally, where provided with the necessary safeguards, has been completely established, and that efforts should continue to be made to induce the L.C.C. to meet the reasonable requirements which have been put forward and so strongly supported by the representatives of those specially interested, namely, of the large stores and shopkeepers and the City of London and approved by the London Medical Officers of Health.

As a minority report, Mr. Arthur Keen gave it as his opinion that any general increase in the height of buildings would be detrimental to the amenities of London; that open spaces and wide streets were of great value in securing the free circulation of air, and that their usefulness in this respect should not be impaired by permitting the erection of high buildings adjoining them; that the principle of increasing housing accommodation by means of high buildings is a reactionary one and undesirable from the point of view of family life; and that in the case of buildings which, in order to secure unity of design, were required to be of the height allowed by the Building Act the restriction of the height of the top floor to 60 ft. in cases of large cubical contents is no longer necessary or desirable in view of the methods of construction and fire attack now available.

This report was referred to the Art, Practice, and Science Standing Committees, and to the Town-Planning and Housing Committees, who reported on it.

Art Standing Committee.

The Art Committee *nem. con.* resolved to support the minority report and to oppose the definite proposals of the Building Act Committee as outlined under heads 1, 2, and 3 in Section I of the report, but are in agreement with the conclusion No. 6 under Section II that in the case of the large cubical content buildings of the great stores a limit of 60 ft. for the highest floor upon which the public may do its shopping is unreasonable.

The Art Committee also expressed the opinion that the premature publicity which had been given to this interim report was much to be deprecated. The conclusions appear to have been reached solely from the commercial point of view, with no regard whatever to the architecture of London or to the interest of the citizens.

The Committee was impressed with the fact that in New York, where much experience had been gained of high buildings under better conditions of sunlight and atmosphere, public as well as architectural opinion has veered round, and very drastic height-limiting laws have now been passed for New York, based on street widths and a system of zoning. Stress was laid upon the fact that when high buildings were permitted a demand inevitably grew up for higher and higher ones, until eventually the streets became too small for the number of inhabitants and the services of light, drainage, water supply, etc., became so overloaded that reconstruction became necessary at great public expense.

The Committee protested strongly against the theory that higher buildings should be permitted throughout whole areas in the City without regard to the width of the street, and in the remainder of London without regard to the character of the neighbourhood and the general appearance which the backs of these buildings would present. As regarded the City, where the average width of the streets might be taken at 25 ft., the proposal to allow buildings 120 ft. high everywhere was preposterous, and would turn City streets into badly lighted, badly ventilated areas.

The Art Committee, however, expressed the opinion that on carefully selected sites an occasional building higher than the rest of the street might be an advantage in breaking the sky-line. Whether the L.C.C. acting alone was the proper authority to exercise this power was a matter which might be worth the attention of the R.I.B.A. The Committee considered that a system of zoning or marking of such special sites on a carefully thought-out plan, having due regard to the neighbourhood, surrounding buildings, width of street, and other public amenities, was essential before any fuller use was made of the L.C.C.'s powers, if the scale and character of London architecture was not to be destroyed.

It was pointed out that, with the possible exception of Kingsway, 100 ft. wide, there was no street in London in which the present law allowing buildings 80 ft. high had been fully used, and that therefore there was still scope for increased accommodation without any general increase in height.

The question of smoke prevention in cities was intimately connected with the height and size of their buildings, and the Committee hoped that the attention of the L.C.C. would be called to the urgent necessity in London of dealing with this problem, and the present need for the full use of their powers in this respect.

The Committee, in conclusion, felt that the health of the community was an important factor in its commercial prosperity, and that the natural rule to follow was to have low buildings and wide streets in northern climates, and high buildings and narrow streets in southern ones.

The Practice Standing Committee.

The Practice Standing Committee reported that as there does not appear to be any structural difficulty in erecting buildings to the height or cube suggested, and that as questions of fire prevention, air space, escape, sanitation, etc., would be taken into account by the L.C.C. in dealing with any proposals for such buildings, it gives its general approval to the report.

The Science Standing Committee.

The Science Standing Committee strongly associates itself with the report of the Art Standing Committee, but owing to the importance of the subject, maintains that the Interim Report of the London Building Acts Committee should be submitted to the whole body of members of the R.I.B.A.

The Town-Planning and Housing Committee.

This Committee agrees with the opinion of the London Society, and considers that the permissive powers of the London County Council in regard to the height of buildings are sufficiently wide. The Committee disagrees with the conclusions of the Building Acts Committee, and considers it essential that the height of buildings in the City should bear some relation to the width of streets. It considers that the present limit of 80 ft. with two stories in the roof is more than sufficient for domestic accommodation. The Committee is unanimously in general agreement with the minority principle expressed in the report of Mr. Keen.

Report of the Council.

On receiving the above reports, the Council approved the report of the Art Standing Committee.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

The following notes are from the minutes of the meeting of the Council of the Royal Institute of British Architects, held on February 6:—

ARCHITECTS AND THE NATIONAL HOUSING SCHEME.—The Council has received from the Official Architects' Association and from a large number of the allied societies communications supporting the action taken in the matter of the recent attack upon architects in connection with the national housing schemes.

R.I.B.A. CONFERENCE AT CARDIFF.—The draft programme of the conference at Cardiff on June 8 to 10, 1922, prepared by the Council of the South Wales Institute of Architects, was approved.

THE LATE ERNEST NEWTON, R.A.—The Council passed a resolution of the deepest sympathy and condolence with the family of the late Ernest Newton.

THE CONCRETE INSTITUTE.—Mr. E. Fiander Etchells, President of the Concrete Institute, was appointed an Advisory Member of the Board of Architectural Education.

RETIRED FELLOWSHIP.—Mr. Wm. Bakewell was transferred to the Retired Fellowship class.

NOMINATIONS FOR MEMBERSHIP.—The nominations of six candidates for the Fellowship and 88 candidates for the Associateship were approved.

ROYAL SANITARY INSTITUTE CONGRESS.—Mr. H. D. Searles-Wood, Vice-President, and Mr. J. Arthur Smith, F.R.I.B.A., have been appointed to represent the Royal Institute at the above Congress at Bournemouth from July 24—29th, 1922.

New Royal Academicians.

At a general assembly of Academicians and Associates of the Royal Academy of Arts held last week, Mr. Henry Alfred Pegram, A.R.A., sculptor, Mr. Maurice Greiffenhagen, A.R.A., painter, and Mr. Robert Anning Bell, A.R.A., painter, were elected Royal Academicians. Among his many works, Mr. Pegram was the sculptor of the work on the entrance to the Imperial Institute and work at Oriel College, Oxford, and of many public statues, including those of Cecil Rhodes at Cape Town and Nurse Cavell at Norwich. Mr. Bell is Professor of Design at the Royal College of Art, South Kensington, and at Glasgow. One of his principal works is the mosaic tympanum over the main entrance to Westminster Cathedral.

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ILLUSTRATIONS.

New County Hall.

We give this week illustrations of the new County Hall at the south side of Westminster Bridge, now nearly completed. Mr. Ralph Knott, F.R.I.B.A. (whose design was accepted in competition), is the architect, and Mr. W. E. Riley, F.R.I.B.A., the consulting architect.

The general contractors are Messrs. Holland & Hannen and Cubitts, Ltd., of London; Messrs. F. & H. F. Higgs, of Herne Hill, are the contractors for the foundations. Amongst the sub-contractors are: Messrs. Chas. Wall, Ltd., London, for the substructure; Messrs. Whitaker, Hall & Owen, London; Messrs. E. C. & J. Keay, Ltd., Birmingham; Messrs. J. Westwood & Co., Ltd., Millwall; Messrs. Farmer & Brindley, Ltd., London; Messrs. Henry Hope & Sons, Birmingham; Messrs. Doulton & Co., Lambeth; Messrs. J. Jeffreys & Co., Ltd.; Messrs. Richard Crittall & Co., Ltd., London; Messrs. G. N. Haden & Sons, Ltd., London; Messrs. F. A. Norris & Dutton, Ltd., London; Messrs. Buffalo Forge Co., London; Messrs. A. & S. Wheater, Ltd., London; Messrs. Boekbinder & Sons (London), Ltd., London; Mr. G. P. Bankart, Bromsgrove; Messrs. W. B. Simpson & Sons, London; The Acme Flooring & Paving Co., Ltd., London; Messrs. Pennycook Patent Glazing & Engineering Co., London; The British Luxfer Prism Co., London; Messrs. F. Braby & Co., Ltd., London; The La Brea Asphalte Co., London; The Express Lift Co., Westminster; The Keystone Varnish Co., Hull; Messrs. Waygood-Otis, Ltd., London; Messrs. Ames & Finnis, London; Messrs. J. A. King & Co., London; and Messrs. J. W. Singer & Sons, Frome.

Rome Scholarship in Architecture.

We illustrate this week the designs of Messrs. H. E. Hamilton Higham, George Checkley, Stephen Welsh, and Wilfrid B. Edwards (Liverpool University School of Architecture), and Mr. Reginald A. Cordingley (Manchester University School of Architecture), which are among those selected for the Final Competition for the Rome Scholarship in Architecture, 1922. The full list of those selected is given on p. 252, and a review of the designs submitted is given on p. 254.

CORRIDOR ON FIRST FLOOR.

New County Hall, Westminster.

MR. RALPH KNOTT, F.R.I.B.A., Architect; MR. W. E. RILEY, F.R.I.B.A., Consulting Architect.

BIRMINGHAM ARCHITECTURAL ASSOCIATION.

WAR MEMORIALS.

The eighth general meeting of the Birmingham Architectural Association was held on February 10, at the School of Art, Margaret-street, Birmingham. MR. H. T. BUCKLAND, F.R.I.B.A., occupied the chair, and MR. H. G. WATKINS, F.R.I.B.A., read a paper on "War Memorials."

MR. WATKINS stated that a war memorial, to be a true memorial, must clearly express its purpose. He therefore ruled out all utilitarian structures, and confined himself to those which were unmistakably war memorials, or, in other words, monuments which were combinations of architecture and symbolic sculpture. These he dealt with historically up to the beginning of the nineteenth century, mentioning particularly the Winged Victory of Samothrace, the Arch of Titus, Trajan's Column, and the Gattamelata statue at Padua. He then dealt with the later monuments, classifying them nationally in order to show how the character and ideas of the nation were exemplified in its architecture and sculpture.

Italian memorials, as illustrated by that to Garibaldi, were, he said, marked by exuberance and freedom from restraint, typical of the race, while the earlier monuments of the Germans were dignified and scholarly until the teachings of Trietsche and Nietzsche began to take effect, when they became coarse and heavy. Of all the nations, perhaps the French showed the truest appreciation of the right combination of architecture and sculpture, while English monuments, though dignified and correct, were rather dull and lacking in imagination.

Coming to memorials erected as a result of the great European war, the first one mentioned was that to Nurse Cavell, which, in the speaker's estimation, was not a success. The outstanding feature of the great movement to erect war memorials in this country, had, he said, been the universality of the smaller monuments; and the multiplicity of these in villages, churches, clubs, &c., was very characteristic of the love of home and individualistic spirit of the British people. As an inevitable result of the tendency to erect smaller monuments, few of the larger and more elaborate types had arisen, and nationally none of the various grandiose suggestions had yet materialised. Instead, we had the Cenotaph in Whitehall and the simple slab over the grave of the Unknown Warrior in Westminster Abbey, both of which had taken such a hold upon the imagination of the people that it was doubtful whether any magnificent national memorial could now be erected which would make the same appeal to the sentiment. As regarded the question of sites for war memorials, he thought a large symbolic monument might well be placed in an open square, provided there was a suitable background, but the smaller monuments were better placed in unobtrusive surroundings.

In conclusion, Mr Watkins showed a slide of a great arch which it is proposed to erect on the Bar-le-Duc to Verdun road. The sides of the arch are to have bands of sculpture, illustrating the endless procession of automobiles and French troops hurrying to the defence of Verdun.

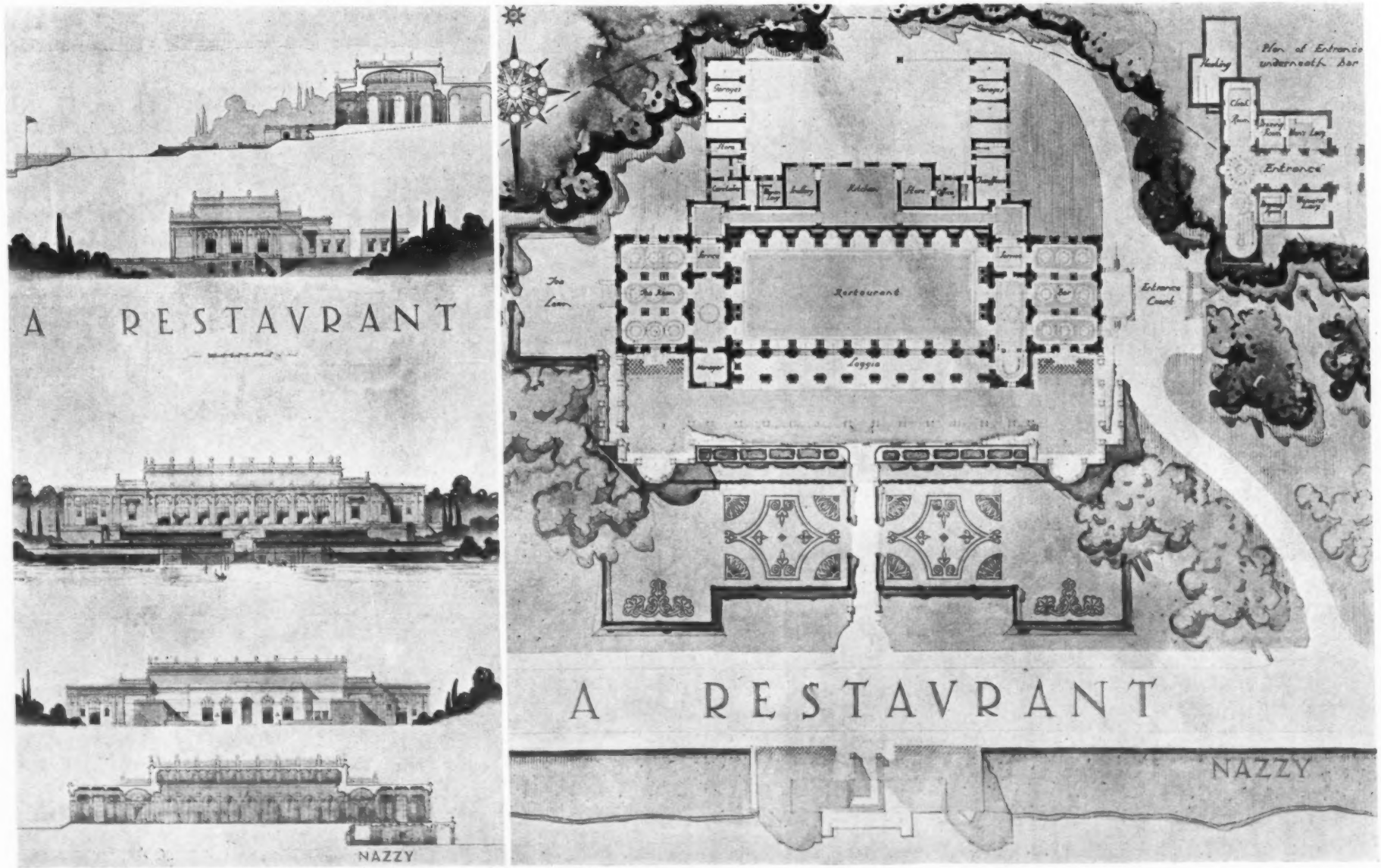
At the conclusion of the paper, Mr. W. HAYWOOD, F.R.I.B.A., proposed a vote of thanks to the lecturer, which was seconded by Mr. H. W. HOBBIS, A.R.I.B.A., and carried unanimously.

The London Society.

The Annual Meeting of the London Society is to be held at the Royal Academy on March 16.

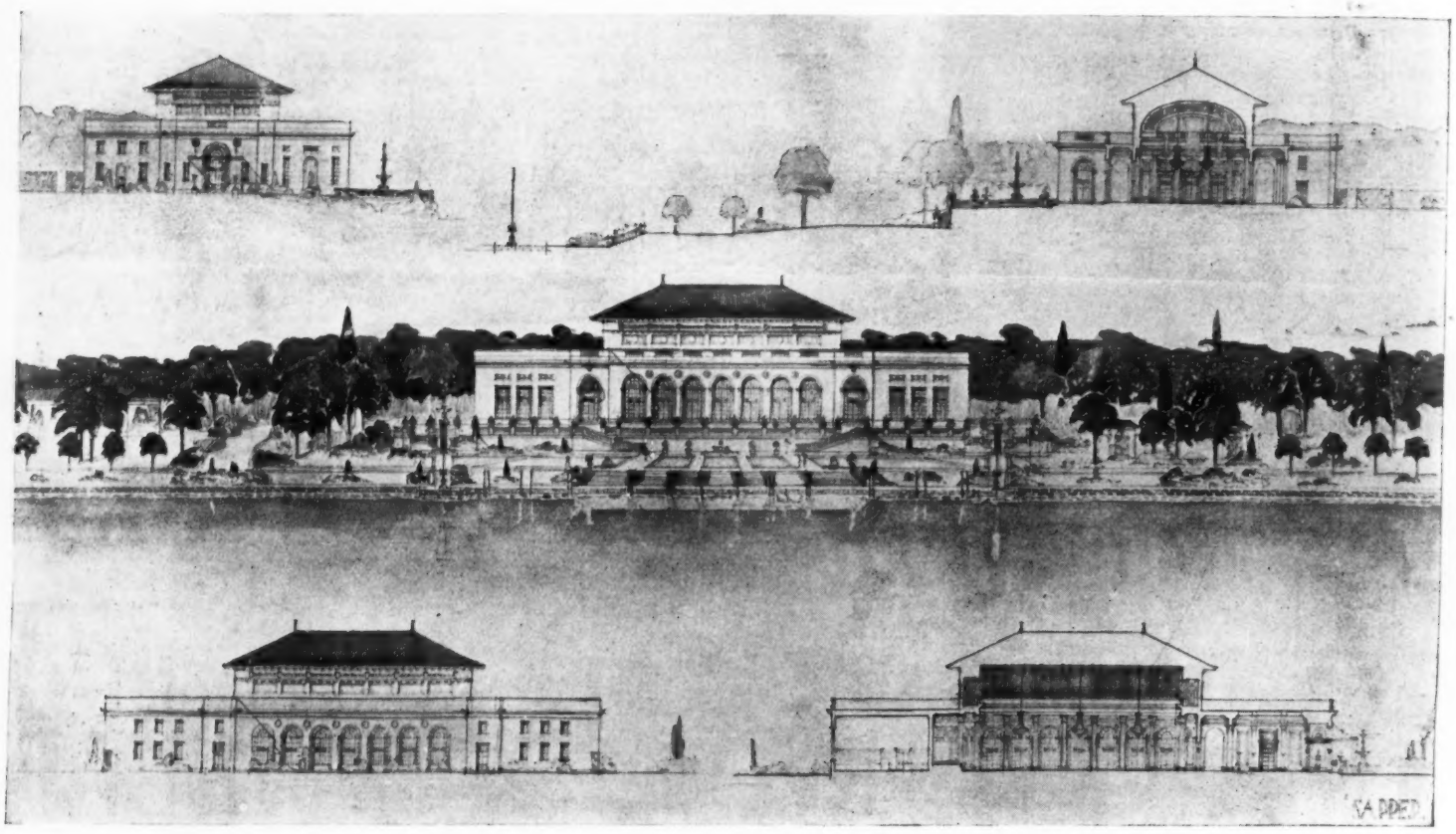
R.I.B.A. Certificate Book.

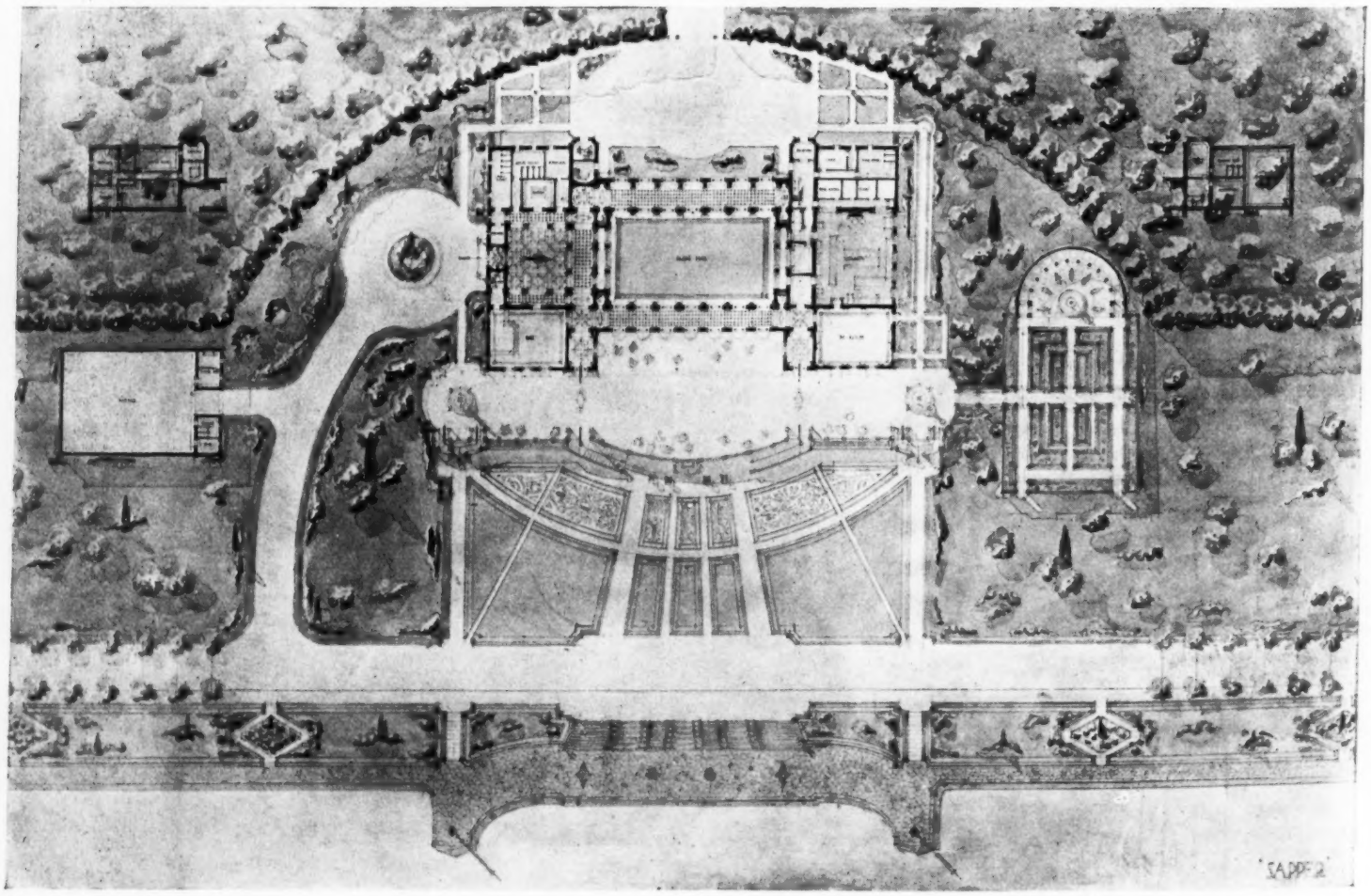
The R.I.B.A. Certificate Book is a new publication now announced, containing 100 forms, price 8s. 6d. If the book is provided with counterfoils, which are not indicated in the facsimile reproduced in the "Journal," we should imagine it will find general favour.



Rome [Scholarship in Architecture: Preliminary Competition.

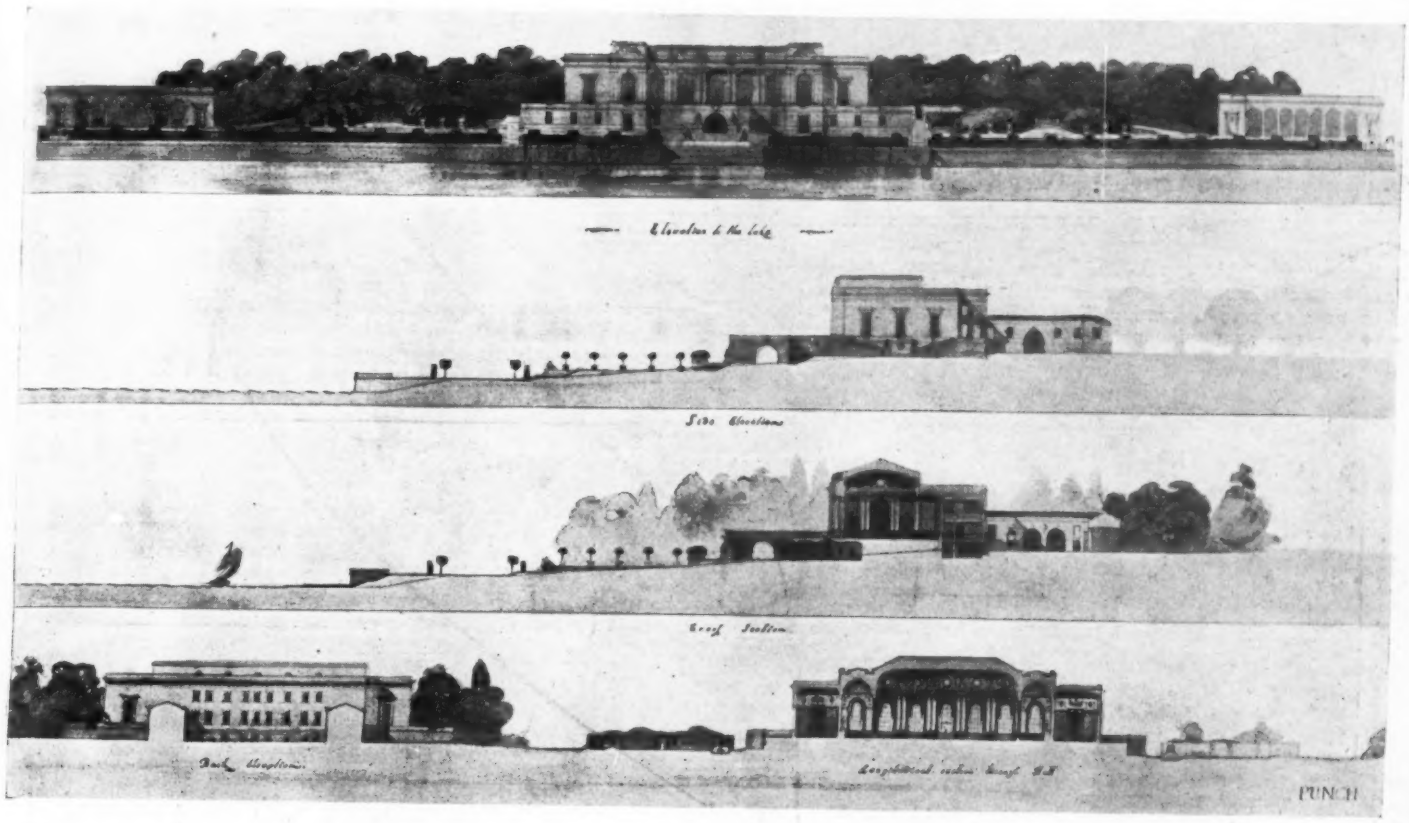
Design by MR. H. E. HAMILTON HIGHAM. (*See p.* 244.)





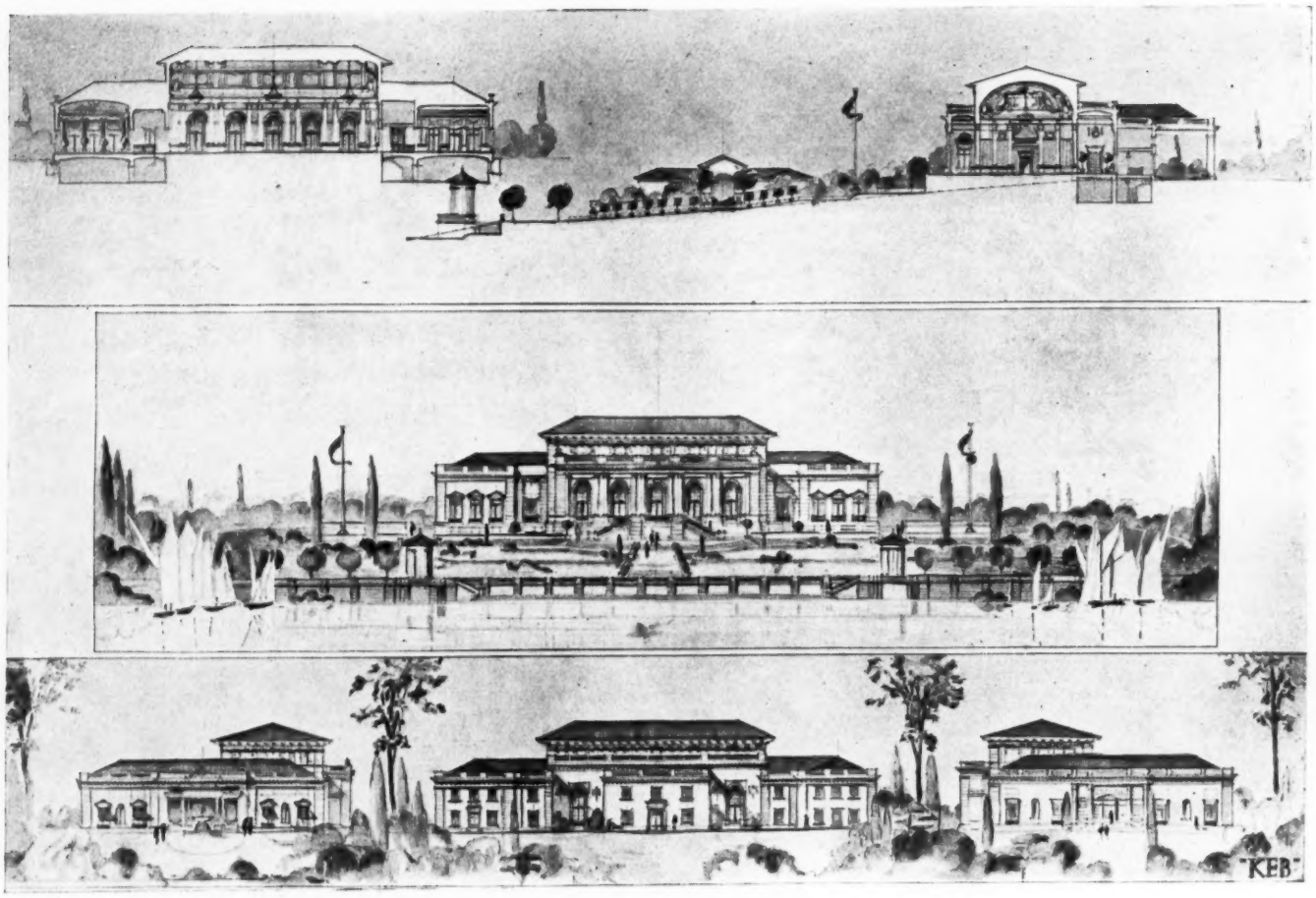
Rome Scholarship in Architecture: Preliminary Competition.

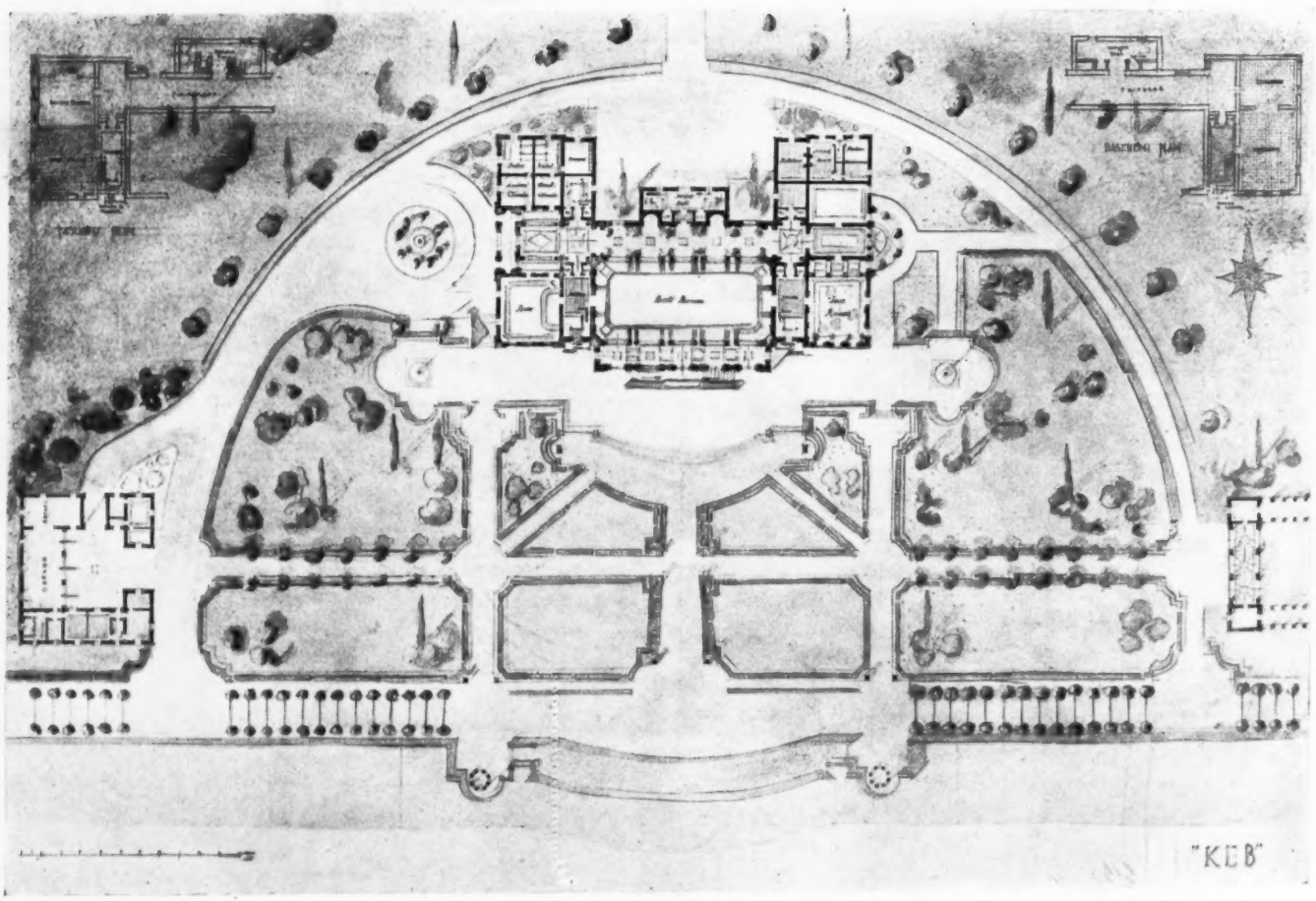
Design by MR. STEPHEN WELSH.



Rome Scholarship in Architecture: Preliminary Competition.

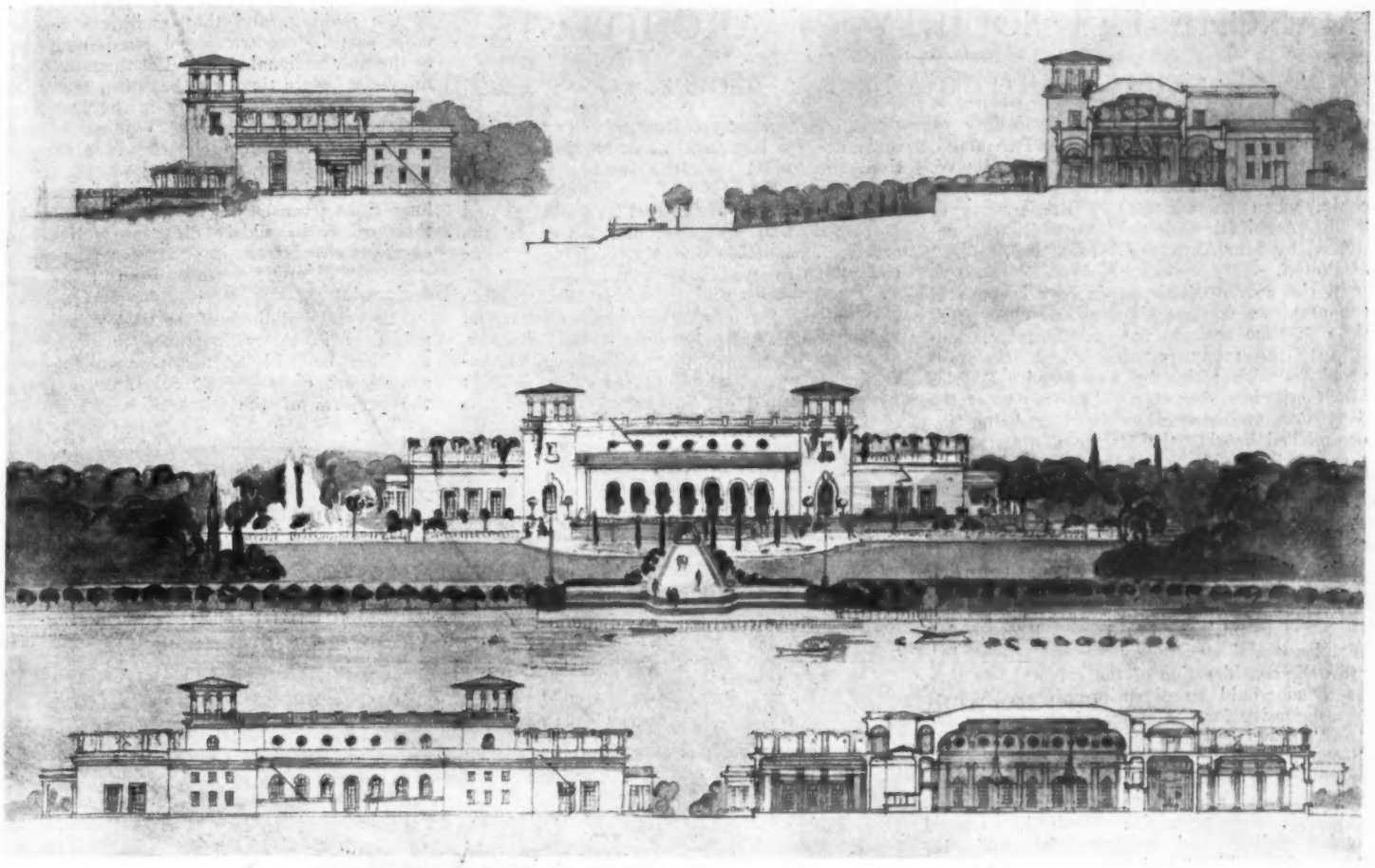
Design by MR. REGINALD A. CORDINGLEY.

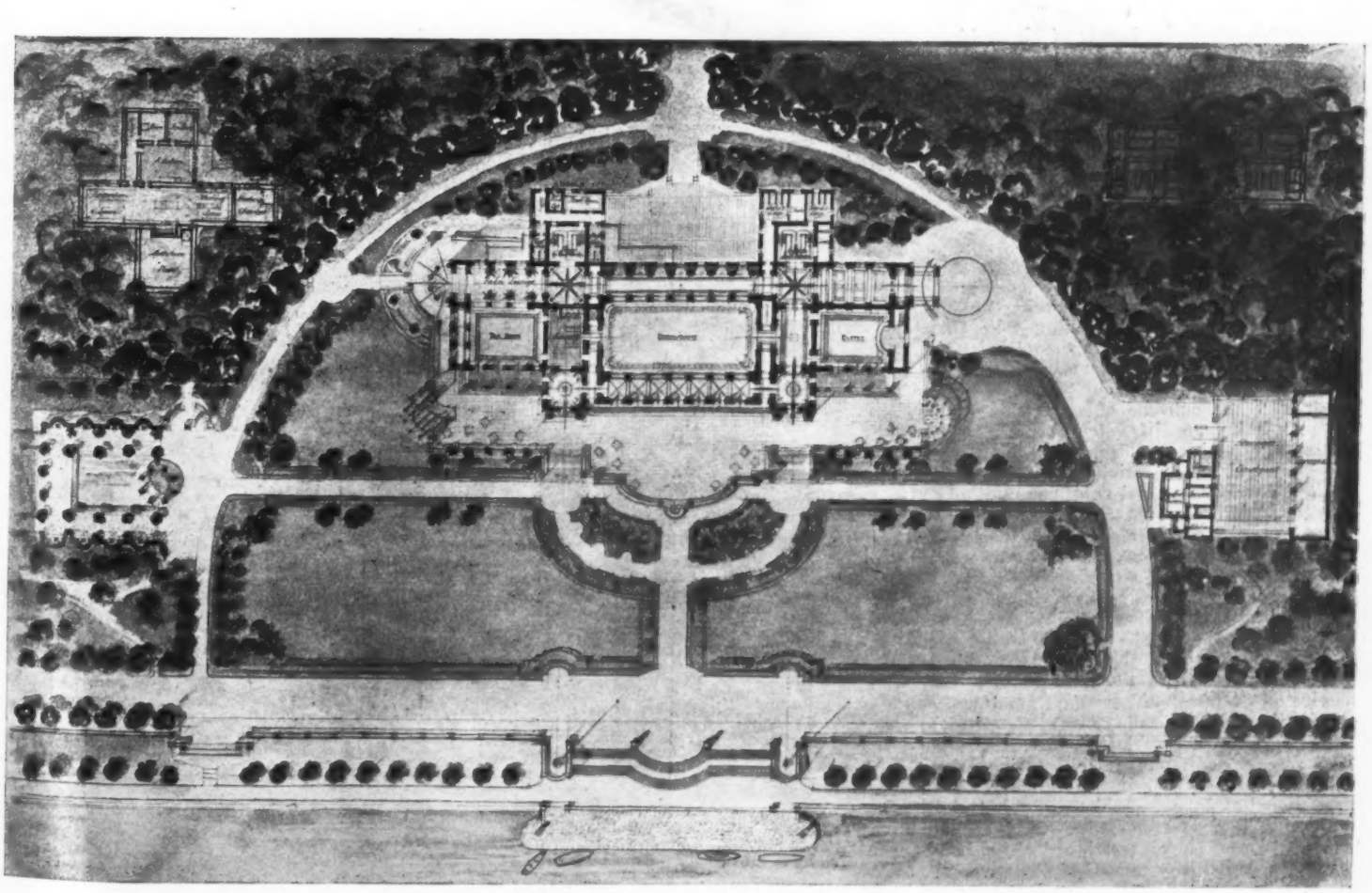




Rome Scholarship in Architecture: Preliminary Competition.

Design by MR. WILFRID B. EDWARDS.





Rome Scholarship in Architecture: Preliminary Competition.

Design by MR. GEORGE CHECKLEY.

MANCHESTER SOCIETY OF ARCHITECTS.

THE ARCHITECT AND THE PEOPLE.

A MEETING of the Manchester Society of Architects was held at St. Mary's Parsonage, Manchester, on February 8, MR. A. W. HENNINGS, F.R.I.B.A., President, in the chair, when an address on the subject of "The Architect and the People" was delivered by MR. ARTHUR J. HOPE, F.R.I.B.A., of Bolton.

In the course of his paper MR. HOPE said the architect no less than others must from time to time seek to determine his relationship to the many prominent and important problems with which he was faced. Despite much criticism, begotten of the needs of the day, fine architectural work was being accomplished bearing the stamp of high attainment. But did the work command that interest? Did it mean to the people all that architects desired it should mean? Did it grip their imagination and hold a place in their thoughts and affections? Or was it just casually regarded, without further thought or understanding? There must be some deep reason for the seeming apathy, and the solution must be found somewhere in our complex social structure.

In the consideration of the subject, two propositions would be given prominence: First, the necessity for the study of the people and the things belonging to their existence. Second, the importance of developing national architecture founded upon our own traditions modified and adapted to present needs. To establish the principles involved, a good understanding and common fellowship between the architect and the people were essential, and it followed that the architect must be learned in the traditions of his art and craft, have wide experience of life's necessities in all their phases, and be possessed of that rare talent for welding together into an harmonious whole all the factors of his problem, giving to each its due weight and importance. The people must have confidence in the architect's knowledge of human affairs and requirements, and, arising therefrom, respect for and acceptance of his architectural skill, through which he gave expression to their practical needs in the buildings which he erected.

The people were the nation, and it had been well said that the history of a nation was written in its buildings—if that were accepted as true, in like manner must architects accept the responsibility of being the historians of their time. Something more than the common bond of interest should exist between the architect and the people; once let it be understood that their buildings themselves were the outcome of and reflected the affairs of human life, work carried out in the right spirit could not fail to attract attention, and viewed aright would mark the national development and progress. Buildings so conceived were not things designed to follow the season's fashions, to be placed in shop windows to attract purchasers to whom they might perchance appeal. Obviously, to attain success in the highest degree, close sympathy and touch must obtain between the architect and the people, and obviously, too, a burden rested upon the people themselves, who should recognise the gain to the community in fostering the welfare, and appreciating the value, of an art so much allied to their own nature. Apart from the artistic, the economic consideration should convince them of the advantage of bringing to their aid in the solution of difficult problems highly trained organising skill and the specialist's thought and experience. Much was heard of the buildings and building systems of America, the great value of study at Paris or Rome, or the relative merits of one form or another of architectural education, but he thought that as English architects, practising for English people with English requirements and traditions, and because architecture more than any other art was human in its origin and association, they must seek the solution of their problems in the study of the history of their own people. The nation and its buildings had developed side by side, and although the architectural modes and styles of other lands had influenced traditional work, English architects had, in the main, retained their distinctive national architecture. Their work could not be unaffected by the influences of the war, and they must contemplate a flood of imaginative ideas, some kindling of the thought within each of them that a new England was in the making, and that architects too had their part in the wonderful renaissance, and in the new national spirit. Let them keep prominently before them the beautiful traditional work. If they found only in foreign forms their highest architectural expression, they might be quite sure their work would not be understood. They would, indeed, be writing their history in the language of civilisations long since passed away, whose buildings had their origin in widely different motives and conditions and were intended for purposes of quite a different nature from those now designed.

The great buildings of the past were erected primarily in many instances to gratify the ambition or add to the personal glory of some great conqueror or ruler, or they were the projects of the hierarchies of religious

Brenchley War Memorial: Detail.

MAJOR H. C. CORLETTE, O.B.E., F.R.I.B.A., Architect.

orders, alike intended to impress and overawe the people with a sense of majesty and mysticism. It must be realised that the masses of the present time were a very different force, better able to understand, to criticise, and take an intelligent interest in architecture, articulate, and conscious of their needs, needs which had changed with the day's work, and able to give expression to them. And not only in the place of business but in the buildings associated with leisure hours did they note a new symbolism, an evolution of thought and taste providing new problems to be solved; and if only they observed and considered the trend of national life they would find much food for thought, and perhaps understand better the gradual development which was always taking place in a virile people and realise something of what was necessary to bring architectural expression into harmony with it.

In industrial buildings there was a broad field for the architect's skill, and a great opportunity for usefulness and true service, bringing to the workers better surroundings, and such service would, could they but compass it, bind more closely the associations of the architect and the people. Buildings associated with the everyday life of commerce were perhaps not always attractive to architects, though if they gave due thought to the beginning of things, they would realise that all buildings had their origin in usefulness, and one failed to see why the problems arising out of industry, because they were associated with trade and a means of livelihood, should not be just as worthy of their best thought and highest effort as the country mansion. Was it beyond the power and skill of the architect to endow with grace of proportion and refinement of detail those buildings which formed the bulk of the work carried out in the land? Could they not make their own the problems to which this development of the people gave rise, adapting themselves to the needs of their day with a broader outlook on the world around them, determined to be of that world, and ministering to its infinite variety of human needs? Inclination might lead their thoughts mainly to the consideration of the artistic side of their work, but that did not mean that they should neither be businesslike in their thoughts nor have regard to matters of utility.

One important consideration which deserved attention at the moment was the economic one. After all, buildings cost money and money was not likely to be a plentiful commodity in this impoverished world. Economy in money involved economy in material and planning, restraint in ornament—in fact, the most careful study of proportion in its widest sense—not just as commonly applied to the diameter of the column in relation to its height, but embracing the organic arrangements of the whole building, the economy and suitability of materials utilised, the relationship of parts and compartments to one another, so that the whole should be in harmony with the service required by its users. They should hopefully look forward to the time when the architect in industrial communities would of right take his place as the guide and inspirer of his client in developing the possibilities of his particular business, leading him to see opportunities of improvement and advance in the arrangement of process and plant, in economy of handling and production, as well as in the more purely academic exercise of his architectural skill on its æsthetic side. In that way, too, might buildings have expression, have the nature of a living growth, and truly merit the term "expressive of their purpose."

The evolution of the human element was reflected in the products of human discovery and scientific development, affecting the architecture of to-day in new forms of construction, bringing great possibilities of successful work—bringing, too, great possibilities of failure. The new materials had enabled

Brenchley War Memorial.
MAJOR H. C. CORLETTE, O.B.E., F.R.I.B.A., Architect.

architects to give the business man his shop front, and above that front it had left them free to carry out architectural ideas without due regard to the effect of the whole. Steel and reinforced concrete made new forms possible, but they did not necessarily give interest to buildings. Qualities of truth and fitness were essential if they would beget interest in their work, and if to the plain man it did not possess these qualities they would find him less inclined to follow them in their architectural suggestions. They could with advantage in that connection study the application of modern methods to modern needs, embodying at the same time good architectural tradition which was so admirably expressed in some of the contemporary Scottish work. The trend of scientific and commercial development had more and more taken the business of building into one of high organisation for the erection of structures as rapidly and economically as possible from well-considered and precise instructions, and architects must make themselves responsible for and be the means of supplying the inspiration and expression to convey to the building that spirit of humanness—the craft spirit—of which industrial enterprise might otherwise deprive it.

Of publicity and propaganda let it be said that if architects were not interesting themselves, if their work were not interesting, if it did not bear the impress and stamp of a live art, if it did not fulfil its requirements in useful service and beauty of expression—in short, if by its own qualities it did not lead people to realise the value of their service to the community—then all the publicity and propaganda which might be organised could not create that interest.

It should be their aim to bring it home to the people that as a profession they could and would give their best thoughts to the more useful as well as to the higher æsthetic qualities of their work—if they could not do those things men would turn from them and look in other directions for the help they needed to carry out their ideas, and the official architect might provide that need close to their hand.

Registration concerned the public, in that if the profession must be a closed one and it was desired that all buildings should pass through the hands of a duly-qualified practising architect, it naturally followed that their professional training must ensure that they were competent not only in purely architectural matters but in practical and business ones also. Unless they were all-sufficient in that respect their services to the nation would fail to meet the demands made upon them, and it might be suggested that registration would not be in the public interest.

Architectural education was advocated by two groups—those supporting the schools and those who had faith in the pupilage system. One great drawback of the architectural schools appeared to be that they failed to provide opportunity for acquiring knowledge of men and affairs, limiting the outlook, tending to the formation of the coterie of student friends who would not find in their mutual discussions the freshness of ideas that a wide intercourse with the lay mind would give them. The work at the office constantly brought young men into close personal contact with many types and many ideas, training the mind in judgment, storing it with the thousand-and-one small matters of knowledge which in after life would be needed, and could only be learned and absorbed when the mind was young. Small things led to big ones in logical sequence of thought, and in conjunction with the true learning of the architectural profession led to the perfecting of work based upon something which was real and practical. The difficulty of learning these smaller things during the later stages of training was great, and the mind, after the exercise of free fancy in the design of buildings untrammelled by any such restrictions as were met with in ordinary practice, would not absorb with patience the small details which made for success in true building. Was it not possible to organise school training on the lines of actual office practice, familiarising the student mind with the same ordered routine of work? As in the medical school the student had the opportunity to "walk the hospital," so in his architectural studies he should have opportunity of acquiring knowledge of actual craftsmanship and the limitations imposed upon designing by materials and the methods of their working. There would be advantage to the students if their problems could be such buildings as had to be dealt with in ordinary practice. The subject might be an office building, a bank, a factory, a city church, or other like building on a site of peculiar requirements, restricted in light and air, limited in cost or subject to special conditions; such actual problems reduced to terms in the form of conditions as we had them in competitions would provide exercise for the students' imagination and ingenuity in the solution of something which had real meaning, carrying through design, working drawings, details, and perhaps quantities also.

The calling of an architect in his relationship with the people was one which, in seeking to combine the highest form of beauty with the utmost usefulness, demanded from its practitioners qualities seemingly impossible. But, nevertheless, by diligent application, by careful thought, a great deal could be accomplished. On the one hand were the influences of a strong commercial spirit, apparently ruthless and regardless of every other consideration in the pursuit of gain, but in other directions was evidence of a desire for better and more beautiful things, and it was for architects to concentrate their efforts upon the possibilities of so blending the needs of commerce with the spirit of art as to forge true links to chain each to the service of the other. With architects lay a great opportunity to preach that gospel, not alone in the big cities, but in the highways and byways, teaching through their work a higher conception of architectural beauty; and in the accomplishment of that duty, keeping ever this motto before them, that only as architecture remained in close touch with the deepest needs of the human spirit could it really continue to be a live art and fulfil its highest and most useful purpose.

BOOKS.

The Volute in Architecture and Architectural Decoration. By REXFORD NEWCOMB, Assistant Professor of Architectural History, University of Illinois. London: Chapman & Hall, Ltd. Price 45 cents.

The use of the volute in art is rightly described by Mr. Rexford Newcomb as widespread in geographical distribution, for it occurs in every part of the world either as a decoration in architecture or upon implements of war, or in domestic furniture and utensils. Many theories have been propounded concerning the original use of the volute in art, and these theories cover every stage of human experience from the spiritual consideration of the attributes of the volute, "the inherent power of all representation of infinity over the human heart," to the most mundane matters of food supply. Volute-like shapes are produced every time viscid bodies are stirred in a circular vessel, or when liquids of different colours, one at rest and the other in motion, are mixed together. These semi-accidental forms of volute must have been known at a remote period in the history of mankind, and with them arose the rude beginnings of human draughtsmanship, for the idle hand of a savage armed with a broken flint, like that of a modern child with a pencil, naturally produces spiral forms among other scratches and scribbles. Natural examples of the volute are to be seen at the extremities of tendrils, tentacles, and fronds, and in shells and horns, some of which are produced in almost any climate and offer their shape for imitation by human artistry.

In Mycenæn times the octopus was a favourite subject for decoration by the metal-worker and vase-painter, and at the present day the curled-up arms of this strange sea-beast are to be found piled in heaps in any grocery store in Greece where the natives have a partiality for it as a comestible. Another volute-bearing creature, the large edible snail, is in great favour with the Greeks, who eat large quantities of them when drinking their resinated wine in the belief that it counteracts the intoxicating effects of the turpentine-flavoured drink. At a comparatively recent period of Græco-Roman history the walls of dwelling-houses in Pompeii abounded in pictures of foodstuffs, and although an Englishman of the present time may not be interested in the culinary value of the snail or the octopus, the ancients had their own fashions regarding food as an appropriate subject for use in decoration. Celtic metal-work possesses many examples of spiral ornament of a character decidedly reminiscent of forms taken by liquids in motion, and the preparation of food in metal bowls may have suggested the ornaments suited for application to the metal.

The use of the volute as a feature of the Ionic capital is traced by the author to the use of rounded ends of logs placed in pairs upon the top of the upright shaft in some structural wooden prototype of the order. The archaic capitals from Athens (shown in Fig. 14) give some colour of probability to this theory, but the widely-spaced volutes of other early capitals require additional explanation, for the wider the distance between the volutes the less bearing would they have upon the top of the shaft. Indeed, the early Ionic capitals from Delos (Fig. 13) and from Neandria, Messa, Ephesus, Delphi, and Naukratis (Figs. 15 to 19) all have volutes so distant from one another as to have no effective bearing upon the shaft. Other writers have traced these projecting volutes to the employment of protective rain-proof plating, similar in purpose to the painted terra-cotta tiles with which the wooden-framed eaves of primitive temples were covered and ornamented.

In the case of the capitals it is, of course, possible that the original protective covering may have been formed of some other material than terra-cotta. The drooping lines of the canals in the horizontal connecting band joining the volutes of many Ionic capitals seem to indicate a pliable material, such as leather or soft metal, in the conjectured remote original, though it is possible that intermediate forms in various materials may have been used at different stages in the evolution of the capital. "The employment of the volute as a *motif* for supporting members hinges upon its ability to make a graceful transition from the vertical to the horizontal and *vice-versa*," states the author. The book is illustrated with several clear diagrams and reprints from beautifully rendered drawings, and although the theory of the origin of the volute in the Ionic capital cannot be accepted as covering all cases it is a suggestive contribution to the discussion of a subject upon which the final word has yet to be spoken.

Building Repairs. By ERNEST S. BLAKE London: B. T. Batsford, Ltd. Price 8s. 6d. net.

This book is issued as a practical guide to the execution of repair work. The subject is dealt with fully, and the author's suggestions for carrying out the repairs are clear and thoroughly practical, while his various incursions into details of building construction are a counsel of perfection. It is not easy to define where repair work begins and ends, and he explains the difficulty where he has found it necessary to deal with alterations beyond the limits of legitimate repair work. When deciding the question of repairs it is admittedly half the battle to be able to diagnose the cause of the trouble, and in indicating the likely sources the author has greatly increased the scope and value of the book. Minor criticisms which occur to us are the following: In describing how to tile a vertical surface, the problem of tiling on a wood-studded partition is omitted. It may not be a desirable thing to do, but the question frequently arises whether a bathroom should have a tile dado or, failing that, some other substitute. It is difficult to agree with the author in his suggestions for repairing the nosings on staircase treads, for it is generally accepted that a creaky stair will result if the treads are cut back beyond the riser and a new piece fitted in. The author is very sound on the theory of condensation, but dealing with windows he should have stated as a cardinal rule that the only satisfactory cure—particularly in fixed lights—is a condensation groove with proper outlets for the water.

The chapter dealing with dry rot and wet rot is very thoroughly worked out, and the information ought to be extremely useful. On this subject we would have welcomed an opinion upon the accepted bad practice of laying linoleum upon ground floors which have been subject to the attacks of dry rot.

A chapter dealing with the causes and prevention of some of the commoner building ailments—such as porches, bay windows, area walls, and all appendages which sag—might well have been included. As a general criticism we regret the absence of a chapter dealing with the question of when certain repair work becomes, from an economic point of view, out of proportion in cost to the result obtained—in other words, when the cure might be rebuilding entirely. We are reminded of this in one or two instances where the repair seems very drastic, and could only be undertaken after great consideration. No doubt the author pre-supposes the necessary knowledge in his readers to decide the question for themselves, but it seems a pity not to include this additional information, and complete what is really a very excellent and useful book.

Books Received.

MODERN METHODS OF WELDING AS APPLIED TO WORKSHOP PRACTICE. By J. H. Davies. (London: Constable & Co., Ltd.) Price 21s.

DANIEL H. BURNHAM, ARCHITECT. By Charles Moore. Two vols. (Boston and New York: Houghton Mifflin Company.) Price, 20 dols.

SIMPLIFIED METHODS OF CALCULATING REINFORCED CONCRETE MEMBERS. By W. Noble Twelvetrees, M.I.Mech.E. (London: Sir Isaac Pitman & Sons, Ltd.) Price, 5s. net.

NOTTINGHAM HOUSING SCHEME.

THE progress of the Nottingham Corporation housing scheme up to July, 1921, is set out in a brochure compiled by Mr. T. C. Howitt, A.R.I.B.A., Housing Architect and Surveyor to the Corporation, and issued by the Housing Committee. In the early stages, the development of the sites and the house designs were placed in the hands of local architects, but in February, 1920, the administration of the schemes and the development of future estates was taken over by the Corporation, under the direction of the Housing Architect.

At the end of July contracts had been let for 1,304 houses, and work had been commenced on 1,229; by October last 571 houses were occupied. The Committee worked on the principle of dividing the work between as many builders as possible, and altogether some forty contractors were employed at one time.

In the lay-out of the estates the position and retention of every tree has been considered, and the Sherwood Estate contains many fine old trees and small spinneys. In the grouping of the houses the keynote has been the limitation of 12 houses to the acre and a minimum of 70 ft. between houses facing across a road. On partly developed sites the houses have been based on a minimum frontage of 20 ft., with an extra width of 4 ft. for the side passages for access to the back. On new estates the minimum frontage is invariably 23 to 24 ft., with extra width for the side passages. Advantage has been taken to introduce special blocks of houses to terminate vistas along roads, and special treatments forming small shrubberies or greens have been used at the junctions of roads to avoid long and exposed flanks of the back gardens. Roads with fairly steep gradients have necessitated the building of houses in pairs of a special design, with a change in the floor levels of each house, and a stepped-up roof to avoid extravagant foundations. The idea of the old village green has been developed in the Sherwood, Stockhill-lane, Gordon-road, and Bulwell Estates. These are the principal points of interest in the schemes, and they form positions for special buildings, such as the maternity home on the Sherwood Estate and the shopping centre on the Bulwell Estate. The roads have been planned to lead up to these special features. Playgrounds have been provided for children, generally in the open spaces formed at the bottom ends of the gardens in a large plot or group of houses. The smaller irregular spaces formed at the ends of the gardens in small groups of houses have been developed into allotments. Special quadrangles have been arranged for development into tennis-courts and bowling-greens.

The SHERWOOD ESTATE, the largest in the city, is bounded on the north by a new 80 ft. town-planning road, and on the east by the Mansfield-road. It has an area of 127.25 acres. The lay-out of the estate and the house designs were put to open competition in August, 1919; twenty-five architects submitted designs, and the assessor, Mr. J. A. Gotch, F.R.I.B.A., of Kettering, placed Mr. W. A. Kneller first, and he was therefore appointed architect for the development of the estate. Sites have been reserved for a secondary school, a maternity home, and small playgrounds and allotments, in addition to the normal provision of a garden for each house. The whole of the roadways and sewers have been carried out by the Corporation with direct labour, under the City Engineer, and the estimated cost of these works for the first 650 houses amounted to £35,660. The estate will accommodate approximately 1,100 new houses. Messrs. Barnes, Booth and Richardson of Nottingham, are the quantity surveyors for the scheme, and builders erecting houses on the estate are as follows: J. W. Stamp & Co., Thomas Bow, Bosworth & Lowe, G. A. Pillatt & Son, J. Herring & Son, Ltd., F. Evans & Sons, N. Griffin, all of Nottingham. Work was commenced in March, 1920, and at the end of July, 1921, 125 houses were occupied.

The STOCKHILL-LANE ESTATE is situated on the north-western outskirts of the town, and has an area of 31.10 acres. The development of the estate was placed in the hands of Mr. W. R. Gleave, A.R.I.B.A. All the houses have large gardens, and allotment spaces and children's playgrounds have been provided for. The site will eventually accommodate 350 houses. The following contractors secured contracts in open competition for the erection of houses: A. Goodchild (Nottingham), W. Marlow & Sons (Sheffield), and F. Evans & Son (Nottingham).

The HIGHBURY-ROAD (BULWELL) ESTATE has an area of 29.77 acres, and is a large island site on the north-west of the town. The lay-out design was prepared by the Corporation Housing Architect. A large semi-circular children's green has been arranged, and small quadrangle greens have been reserved for a bowling green and tennis courts. In order to set the houses well back from the main road, a small green has been introduced on the Highbury-road front. Small shrubberies and roadway trees have been provided for, and an area has been reserved as a small shopping centre. The site will accommodate 313 houses. The majority of the house designs of the Nottingham Corporation Housing Department will be introduced on the site. In May, 1921, Mr. F. W. Horton (Lincoln) secured in open competition a contract for 38 houses.

The GORDON-ROAD ESTATE is situated on high ground on the eastern outskirts of the town. The lay-out design for the estate was prepared by the Corporation Housing Architect. The site accommodates 194 houses. The builders erecting the houses are J. F. Bush (Nottingham), T. E. Caunt & Co., Daws, Adderson & Brough, T. H. Harper, T. E. Caunt & Co., A. Parsons, A. E. Holbrook, G. A. & L. Litchfield, A. E. Savage, W. A. Savage, L. F. Soar.

The COPPICE-ROAD SITE is situated in the Mapperley district, and contains an area of 5 acres. The site has been developed with one central road and a road on the northern boundary accommodating 56 houses. The house plans on this site are from designs by local architects—Messrs. Brewill & Baily, FF.R.I.B.A., Mr. E. B. H. Hall, and Mr. W. H. Taylor, Lic.R.I.B.A. The builder is Mr. G. W. Wainer (Nottingham).

The WELLS-ROAD NO. 3 SITE is in the Mapperley district, and has an area of 3.65 acres. The site accommodates forty houses of the parlour type. The contractors erecting houses on this site are Hayes Bros., Pickard Bros., C. W. Rogers, and Hartley & Co., all of Nottingham.

The WELLS-ROAD NO. 2 SITE is on the eastern outskirts of the town, and has an area of 1.36 acres, accommodating eighteen houses of the parlour type. The development of the site and the house designs were placed in the hands of Mr. W. V. Betts, Lic.R.I.B.A., architect. Messrs. Bosworth & Lowe (Nottingham) were the contractors. The Wells-road No. 1 site is a small site adjacent to the Wells-road No. 2 site, and contains an area of two acres; its development has been carried out by Mr. W. V. Betts, Lic.R.I.B.A. Messrs. Bosworth & Lowe (Nottingham) were the contractors.

The BARNSTON-ROAD SITE is in the Sneinton district, and has an area of 6,662 sq. yds. The site will accommodate 22 parlour type houses. The contractor for the whole of the houses is Mr. S. Parnell, of Nottingham.

THE LONDON SOCIETY.

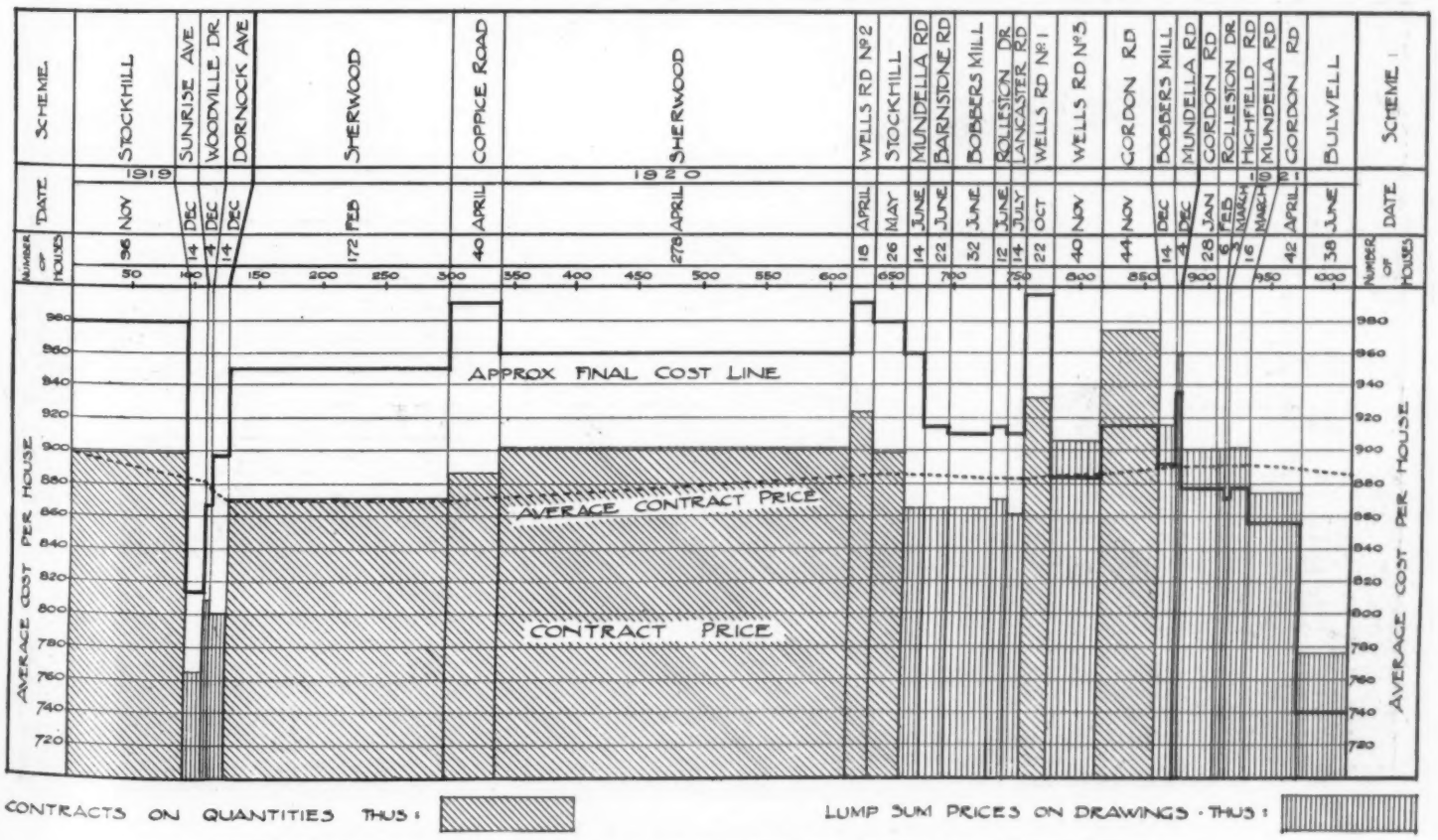
THE PORT OF LONDON.

AT a meeting of the London Society held on Friday last week, at 18, John-street, Adelphi, the Right Hon. Lord Ritchie of Dundee, Vice-Chairman, Port of London Authority, occupied the chair. He said it was a great pity that the people of London did not know more about its great port, than which London had no more interesting or extensive sight to offer.

Sir Joseph Broodbank (Port of London Authority) then read a paper, illustrated by lantern slides, on "Progress in the Port of London." The lecturer said he would show the progress of the Port by a series of picture contrasts of the old with the new. For hundreds of years the well-known sailing barges, bringing cement from the Medway, had so traded, and they had the lowest cost of propulsion of any kind of transport. Another old type, which had survived for 300 years, was the Dutch boats which brought eels from Friesland. Eighty years ago passenger steamers were going up and down the river to Margate and Gravesend, but the colliers at that time were all sailing ships. To-day in the Pool there were no sailing vessels, except the barges; passenger steamers there were none, the suburban railways had killed that traffic, and the revival of the "penny steamboat" above bridge had been killed by the underground railways. The South-West India Dock some forty years ago was the London home of the fast-sailing Colonial and eastern clippers, and, with fuel and labour at their present cost, it was a question whether the sailing vessel might not still have a chance of ousting the steamer for ocean traffic. One of the largest vessels now using the Port was the "Ceramic," nearly 20,000 tons gross register. The most important step in the march of progress for making London a great port was the narrowing and deepening of the river. The larger vessels mostly discharged in the middle of the tideway, others were beached on the shore or went into artificial creeks. Queenhithe Dock was a survivor of this class of accommodation, as was also Puddle Dock, which had borne its name for at least four centuries. Trade was handicapped for 150 years by the miserable accommodation, and was rescued by the reforms initiated by William Vaughan and George Hibbert. With the cessation of dock monopolies in 1823 new life was stirred into wharf-owners and under conditions of healthy competition the river wharf system had vastly developed. Until the beginning of the past century the river was deepened in a way by the thousands of colliers coming in, which had to go back to the Tyne in ballast largely dredged up from the river bed. The right of ballasting ships was bestowed upon Trinity House as far back as 1593, and was surrendered in 1894. The Thames Conservancy was originally constituted in 1857, as the result of agitation caused by the neglect of the Court of Common Council properly to conserve the river, one of the chief causes of complaint being the neglect of dredging. The first dock on the Thames, at Blackwall, was made in the reign of Charles II, while the King George V Dock, opened last summer, was the most recent.

Of the future trade of the Port, Sir Joseph said all the energy in providing accommodation would be rendered sterile if trade diminished owing to the flagging of human effort in production or from the superior attractions of rival ports.

A vote of thanks was passed to the lecturer.



GRAPH SHOWING THE COST, IN POUNDS, OF PARLOUR-TYPE HOUSES WITH THREE BEDROOMS.

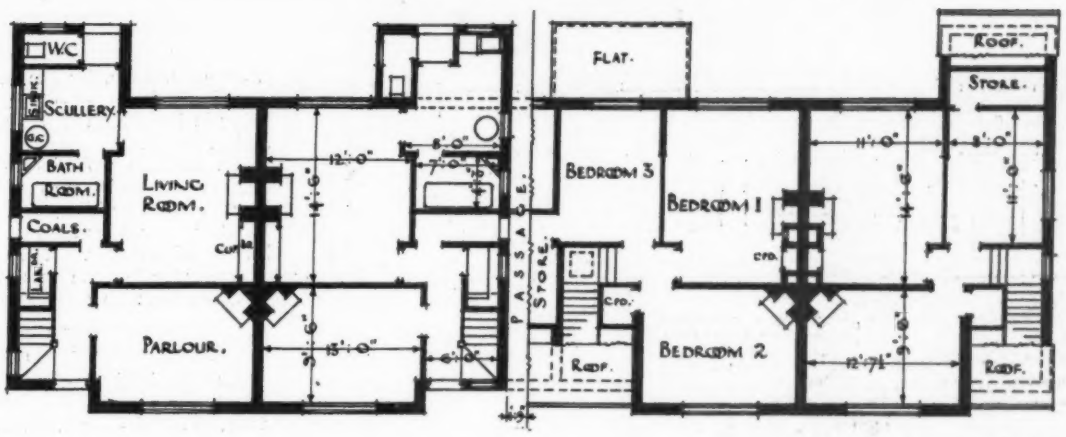
Nottingham Corporation Housing Scheme.

SHERWOOD ESTATE, TYPE "B 6" HOUSES. MR. W. A. KNELLER, Architect.

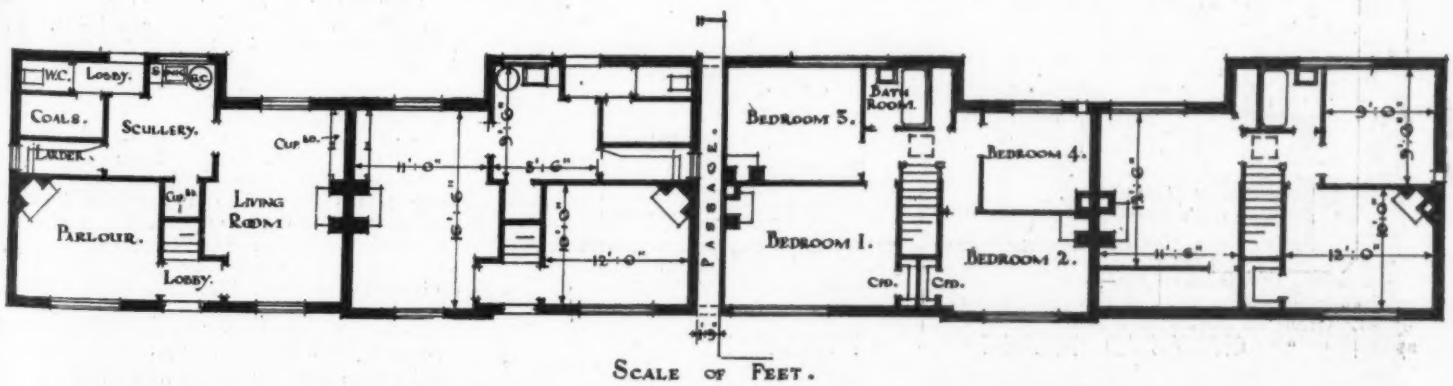
WELLS-ROAD ESTATE, TYPE "B 19" HOUSES. MR. T. C. HOWITT, A.R.I.B.A., Architect.

Nottingham Corporation Housing Scheme. MR. T. C. HOWITT, A.R.I.B.A., Housing Architect and Surveyor. (*See p.* 268.)

TYPE "B8" HOUSES.



: GROUND PLAN : TYPE "B6" HOUSES. : FIRST FLOOR PLAN :



SCALE OF FEET.

GROUND PLAN 10 5 0 10 20 30 40 50 FIRST FLOOR PLAN

TYPE "B8" HOUSES.

SHERWOOD ESTATE, TYPE "B 6" AND "B 8" HOUSES. MR. W. A. KNELLER, Architect.

Nottingham Corporation Housing Scheme. MR. T. C. HOWITT, A.R.I.B.A., Housing Architect and Surveyor. (*See p.* 268.)

THE WEEK IN PARLIAMENT.

Westminster, Wednesday.

PARLIAMENT re-assembled for the Session 1922 on Tuesday, February 7.

The National Housing Scheme.

EMPTY HOUSES.—The question of the Government's housing policy was raised by several Labour members during the debate on the motion for the presentation of an address in reply to the King's speech. Mr. Halls said he regretted there was no mention in the speech of the housing question or of what the Government proposed to do to enable people to get possession of the houses which frequently became empty. Three years ago it was admitted that there was a shortage of 500,000 houses, and when, a few months ago, the Government cried a halt, 176,000 houses had been built or were in course of construction. At that time 180,000 houses had been condemned as unfit for human habitation, and those houses were still occupied. Also in nearly every town there were "middle-class" houses empty, the owners of which should be compelled to let them within a certain period, or be compelled to pay rates on them. The owners were holding up these houses. To-day there were many thousands of building trade operatives unemployed, and their numbers were growing by the thousand because housing schemes already sanctioned were coming to an end.

Sir A. Mond, Minister of Health, in reply, said he could not undertake to introduce legislation to compel owners to let empty houses within a limited time, or to compel the owners to pay rates for such houses during the whole period that they were unoccupied.

HOUSING POLICY.—In reply to a question by Mr. Myers, Sir Alfred Mond said the Government certainly intended to proceed with its housing scheme within the limits laid down last Session. Where work had been undertaken by local authorities with the approval of the Ministry, and for reasons outside the control of the authorities could not be completed by July next, the time for completion would be extended by the Ministry as might be necessary.

THE PROGRESS AND COST OF HOUSING.—In reply to Mr. T. Thomson, Sir Alfred Mond stated that the total number of houses completed by local authorities and private builders under schemes of financial assistance up to January 1 was 102,480. In addition, 3,150 dwellings had been provided by the conversion of houses into flats, or by the conversion of huts and hostels. The number of houses in course of erection was 85,892, and the number not yet started 29,778. The lowest prices approved for houses recently had been £433 for a non-parlour house with two bedrooms, £450 for a non-parlour house with three bedrooms and £500 for a parlour house. In present circumstances the Government could not undertake to extend financial assistance to housing schemes beyond the limits announced last session.

HUTS IN THE PARKS.—Sir John Gilmour informed Major Barnett that the Government huts which were being removed from the Embankment were not being re-erected at Gloucester Gate, Regent's Park, nor were the staffs which were being evicted from these huts being re-housed in the Regent's Park hutments vacated by the Ministry of Pensions. One of the buildings in Regent's Park had already been demolished, two others would be demolished during the coming summer; but he was unable to give any guarantee that the remaining two would be removed during the present year. The First Commissioner of Works was, however, most desirous that all the temporary buildings erected for war purposes in the parks and open spaces should be cleared at the earliest possible date, and he was sparing no effort to that end. Good progress was being made.

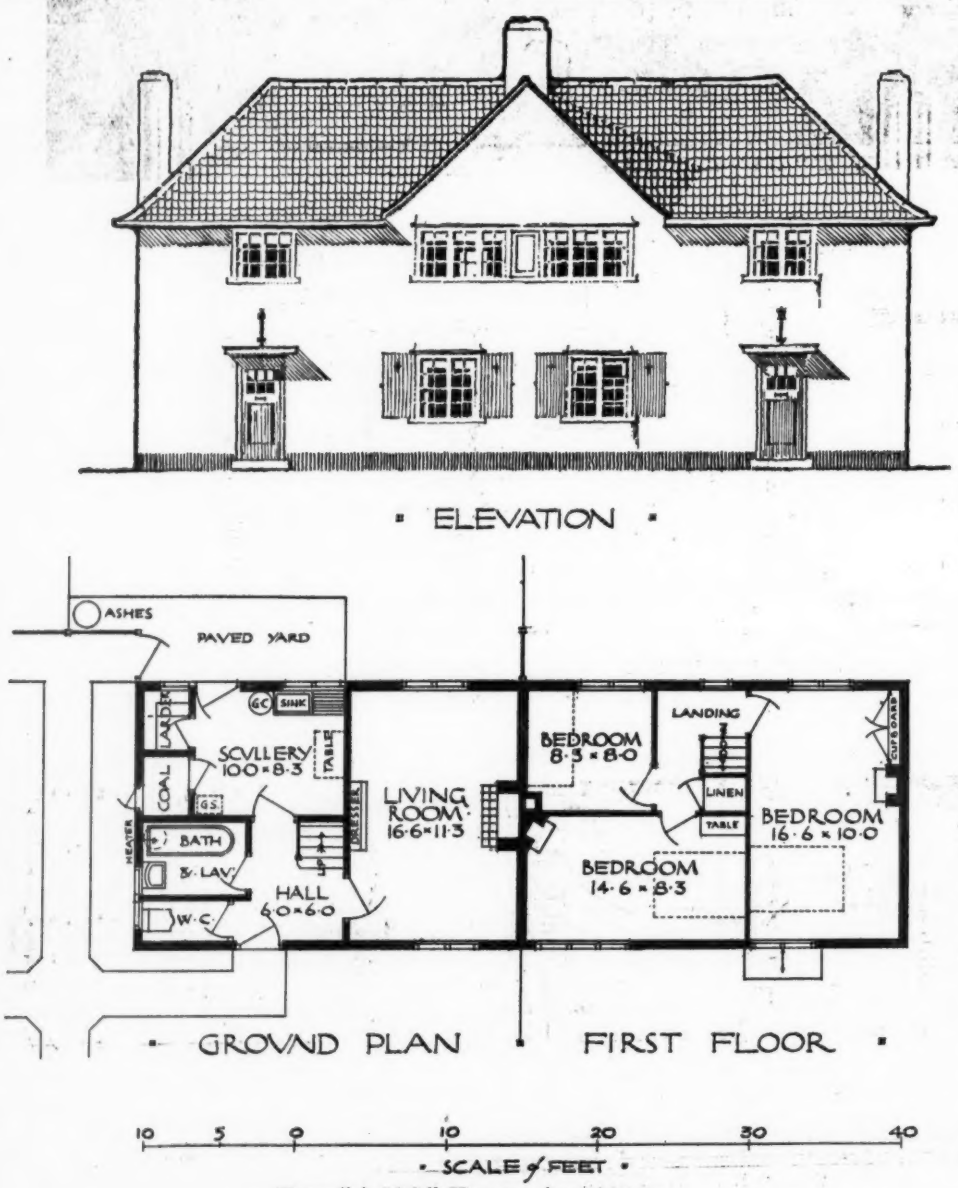
EXPORT OF WORKS OF ART.—Sir H. Brittain asked the Chancellor of the Exchequer whether, following the example of other countries, he could see his way to impose an export tax of at least 10 per cent. upon valuable British works of art purchased by foreigners to be sent abroad.

Sir R. Horne said the matter had already been brought to his notice, but he was unable to anticipate his Budget statement.

GOVERNMENT STAFFS IN HOTELS.—Sir John Gilmour, replying for the First Commissioner of Works, informed Captain Viscount Curzon that the Government was no longer occupying any hotels, or portions of hotels, in London.

ALLEGED BUILDING TRADE TRUSTS.—Mr. Malone asked the President of the Board of Trade whether he was aware that rings and combines had a virtual monopoly of materials for house construction; that this monopoly was a menace to the community; that it was retarding the building of the houses; and whether he would give his attention to these facts, and also to the disclosures made in the Report of the Sub-Committee on Building Materials appointed under the Profiteering Acts, and in that of the Special Committee appointed by the Minister of Health which reported last July, and would redeem the promise made in November, 1920, by the then President of the Board of Trade that the Government would bring in legislation dealing with trusts in trade and industry.

Mr. Baldwin replied that he was aware of the existence of trade combinations of various kinds in respect of building materials, but neither of the Committees found that any such combination had acted unfairly. As to the concluding part of the question, he was not at present in a position to make a statement.



TYPE "A 16 2" HOUSES, ANY ASPECT.

Nottingham Corporation Housing Scheme.

MR. T. C. HOWITT, A.R.I.B.A., Housing Architect to the Council. (*See p.* 263.)

Women's Decorative Design Exhibition.

An Exhibition of Decorative Design by Women has been opened at the Women's Institute, Victoria-street, S.W., and will remain open until March 1.

Fire-Protection in High Buildings.

In the course of a letter to the Press on the subject of higher buildings for London, Mr. Delissa Joseph, F.R.I.B.A., states that the difficulty of attacking fire in a high building can be overcome in the following manner:—"A dry pipe is built into a high building to its full height, and at the street level this pipe has a nozzle, and at each floor level the pipe has a hose attachment. Upon the fire engine arriving, the engine is attached to the nozzle, and water is at once sent up the dry pipe and is ready for discharging at each floor level without the firemen carrying up a long hose. Instead of approaching the seat of the fire up long ladders, the fireman uses the external iron staircase. If the pressure of water does not reach beyond the 80 ft., the provision of an electric pump, fixed in the building at the 80 ft. level, picks up the water and throws it to the top of the high building, precisely as is done in the case of St. Paul's Cathedral, where water can be thrown over the top of the dome. Therefore, with these fixed provisions, a high building, constructed of fire-resisting material, will actually be carrying its own means of fire attack."

THE TOWN-PLANNING INSTITUTE.

ZONING IN LONDON.

MR. REAY NADIN (President) took the chair on February 10 at a general meeting of the Town-Planning Institute, when Mr. J. P. ORR read a paper on "Zoning Investigations in London."

MR. ORR said he had devoted considerable time to the study of three questions, viz.: (1) What is zoning? (2) Is it needed in London? and (3) Is it feasible in London? His investigation was as yet by no means complete, but he hoped some of them would take up propagandist work in favour of zoning and join him in attempting to prepare tentative zoning maps for the several boroughs of London. After studying the ordinances of many cities, he had come to the conclusion that the best chance of making zoning a success in London was to follow fairly closely the simple lines adopted in New York. Zoning restrictions were frankly based on the recognition and confirmation of existing conditions, with due allowance for any established trend of development. They were devised so as not to put too heavy a limitation upon the owner's liberty to do what he pleased with his own property, and so as not to depreciate any investment in land or building. Zoning was by no means a panacea for all the evils resulting from faulty planning in the past. It did not profess to eliminate or even remedy what was bad, but it did aim at preventing the recurrence of what experience had shown to be bad, and preventing bad from getting worse. User zoning was directed mainly towards protecting the user which was most common in any district and best adapted to its conditions from the intrusion of incompatible users. In London there was a serious undesirable intermixture of incompatible users. The surface utilisation maps prepared by the London County Council for the Royal Commission on London Traffic in 1904 showed that the centre of London was devoted to commerce and industry, but that outside that centre there were large areas in which residences were intermixed with shops, offices, warehouses, and industries. A study of the London County Council's large scale ward maps on which the original user record was made showed that even in some wards near to the centre there were considerable residential areas which needed protection. In the original development of those areas there had been much intermixture of users which could with great advantage to the community be eliminated when those areas were re-developed. At the same time, the existence of such intermixture in some areas suggested the advisability of zoning as a preventive against its occurrence elsewhere. In America the demand for user zoning came largely from property owners, first in New York and then in the 125 cities which followed New York's lead after a few years' experience of zoning showed its advantage and in particular its effect on values. Property owners wanted it because they had suffered so much from the depreciation of their property by the actual intermixture of incompatible users, such as the London plans showed, and by fear of further intermixture. If there was as yet no such demand from the property owners in London it was probably because they regarded that intermixture as inevitable and did not know of zoning as a remedy. In residential areas which were ripe for re-development, and were within easy reach of the wave of commercialisation, owners were looking forward to appreciation. They had no need to fear depreciation. Zoning would not interfere with this appreciation, but rather would confirm it. Even in such localities there might be found here and there an owner of a large estate who, out of regard for his old tenants, would be prepared to re-develop, say, half his estate for residences in consideration of the remainder being zoned for business or industry. It should be borne in mind in this connection that permanent reservation of large residential districts as such must tend to enhance their residential value, especially in localities near the work centres, if existing residences in the vicinity were being gradually replaced by non-residential users. On the other hand, the owner of the residential property in an unzoned district in which the trend of development was doubtful could never be sure whether his property might not be depreciated from the sporadic conversion of property in the vicinity to commercial or industrial users. Speculative conversion of a property here and there might not only bring the speculator to grief but depreciate his neighbour's property, and the district might after all never get a commercial character. In that case the depreciation in residential value would be permanent. That speculative conversion was prevented by zoning, while at the same time conversion, justified by a really widespread call for a change, was always provided for in zoning ordinances, so there again owners should welcome the protection afforded by zoning. In the matter of slum clearance for housing purposes, local authorities were very much handicapped in an unzoned city by the necessity for acquiring large areas if their new housing estates were to be safe from the depreciation and loss of amenities which might result if the areas surrounding a small estate were re-developed for non-residential purposes. Few local authorities, however, could afford to buy up large built-over areas; consequently, most of the slum clearance and re-housing schemes of the past were on small sites, and too many of them were undertaken in localities in which land had an actual or prospective commercial value. Re-housing schemes in such localities were bad from the financial point of view, because of the high cost of the land, and also bad from the health point of view owing to the gradual deterioration of the surrounndings with the advance of the wave of commercialisation. Many comparatively modern small working-class estates in London—not only those of local authorities, but also those of charitable trusts—were becoming shut in by new factory and business premises, and many suffered from having too small an open space on the estate and no public recreation ground within easy reach. Zoning would change all that, for once zoning was established local authorities could confine their housing schemes mainly to residential districts, and they need not take up large areas. The elimination of slums from business and industrial districts could then, as a rule, be safely left to private enterprise; and if occasionally local authorities undertook it they could sell or lease the cleared land for its most paying user and use the proceeds for the purchase of cheaper re-housing sites in residential districts. They would get all the better prices for the cleared area by reason of the certainty conferred by zoning, and would be in a position to buy a larger area in a cheap residential district and devote part of it to a public recreation ground, the existence of which would add to the amenities, and consequently the value, of the re-housing site.

The author quoted a good deal of American testimony as to the benefits secured by zoning, and said his view of the urgency of the need for zoning in London was based on two facts, the first being that large areas in London were ripe for re-development and secondly that the few large estates still held by individual owners were being broken up. It was in the oldest estates that zoning was needed most, and it was obvious that the opportune moment for the introduction of an administrative measure designed to secure the development of private estates on sound lines, conducive to public welfare, was before, and not after, development or re-development, when the measure in question had, like zoning, no retroactive effect. Co-operation with owners was essential to the control and satisfactory working out of a zoning scheme. The larger the estates, the fewer would be the owners to be dealt with, and therefore the sooner would the zoning scheme be brought into effect. Zoning entailed a great deal of preliminary investigation. It must be based on very accurate knowledge of users, since one of its main underlying principles was that existing conditions must be recognised and confirmed. The first preliminary must, therefore, be a user survey and the preparation of a plan showing existing users. A detailed civic survey was as necessary for zoning as for other branches of town planning; but in preparing a tentative user zoning plan for a built-up area it seemed unnecessary to arrange for such a very detailed civic survey as had been advocated as a preliminary to the town planning of important towns not as yet fully developed. The user zoning of a built-up area was intended to prevent bad from getting worse in the way of intermixture of incompatible users, and to control re-development when buildings were demolished. It was far easier to determine the lines on which such re-development should proceed than to forecast the development of the future (often the far distant future) in a large open area as yet undeveloped, where there were few, if any, existing users to guide the planner. In a built-up area experience since the buildings were erected would have shown how far particular localities were suitable for particular users, and it was therefore unnecessary to postpone the preparation of a tentative user zoning plan until the completion of the various branches of a detailed civic survey. Zoning would, of course, be effected by proposals for new roads which might tend to change a residential locality into a business locality; and if zoning involved proposals for new roads or open spaces, it might be necessary to await the elaboration of complete plans for amending the system of communications in the borough before preparing even a tentative zoning plan. But zoning was confined to those measures of control which could be put into force without expropriation and payment of compensation. It could not, therefore, include proposals for new roads and open spaces. A survey of land values and traffic and time zoning maps would all be useful in justifying final zoning proposals; but local officials had sufficient knowledge of the facts which such surveys brought out to ensure that tentative zoning plans prepared by them or in consultation with them for a built-up area were on right lines; so a tentative zoning plan need not wait on such surveys, but might profitably be pushed on ahead of them. The surface utilisation map was thus the work on which effort towards the zoning of a built-up area should first be concentrated, and as soon as it was completed a tentative zoning plan could be drawn up as a basis of discussion with property owners. One of the advantages of the choice of a central borough for tentative zoning was that the 1904 surface utilisation maps prepared in the user survey, made by the London County Council for the Royal London Traffic Commission, were available for comparison with those of to-day. The experience gained in the work of zoning a central London borough had convinced him that the difficulties were by no means insuperable, and that zoning was from an administrative point of view quite feasible in London. The Government was not likely to legislate in advance of public opinion, so it now rested with those who thought zoning necessary for London to start upon a propagandist campaign with the object of educating the public to demand zoning legislation.

Discussion.

PROFESSOR S. D. ADSHEAD said that in regard to zoning they had to remember always that towns grew. The centre of the town was always the industrial area, and that area

if the town was growing, spread over other areas. Therefore, in dealing with built-up areas, they must consider the permanency of the statutory powers created for the different areas. Zoning of a built-up area was a very different thing from zoning an unbuilt-up area. They could zone an unbuilt-up area in a large way, but when they were zoning a built-up area they must confine themselves to small areas for different users. It was extremely difficult to zone built-up areas. With regard to London, it occurred to him that zoning would best be commenced on the same lines that town-planning was begun in 1909. It might be optional for borough councils to zone certain areas within their district.

MR. W. R. DAVIDGE said it was remarkable to know what a lot had been done under the present law with regard to zoning for height and for open spaces. The London Building Act and the law relating to ancient lights had done more for London in the way of preserving that particular amenity than the Americans had been able to do with zoning. So far as the user area was concerned, however, there was no control in London. The London Building Act was going to be reviewed, and they might try to get an amendment to it. The Act worked very well as regarded working-class dwellings, but there were no requirements for open spaces in connection with offices. He did not agree that borough councils should have autocratic powers with regard to zoning, for the borough was only one unit, and the local authority ought not to be allowed to deal with the matter except in consultation with a larger authority dealing with the whole of London.

CAPTAIN SWINTON said India was a long way ahead with regard to zoning. From the remote past India had had zoning to deal with the different castes, and when the British went to India they started zoning also in a large way. They left the native cities to the natives and built cantonments.

Replying to the discussion, MR. ORR said it was a mistake to zone anything less than the whole town. He knew London was a huge place, but his idea was that borough councils were the bodies to prepare the tentative zoning plan, and the zoning authority should be the London County Council, or whatever body was ultimately fixed on to control the whole of London.

HOUSING AND TOWN-PLANNING NOTES.

National Housing and Economy.

Some far-reaching proposals for the reduction of expenditure by the Ministry of Health are embodied in the Report of the Geddes' Committee on National Expenditure, especially with regard to housing, under which heading the Report states:—

The estimate of £11,400,000 for housing in 1922–23 is made up as follows:—

Subsidy to private builders ..	£2,500,000
Grants towards the deficit on local authorities' housing schemes ..	9,500,000
Discount on sale of Army huts ..	20,000
Improvement of slum dwellings ..	130,000
	£12,150,000
Less balance of sales of housing materials over purchases ..	750,000
	£11,400,000

We are informed that certificates have been issued in respect of 42,000 houses in England and Wales, involving a total subsidy of £10,000,000, which is in course of payment. Of this sum it is estimated that £2,500,000 will remain to be paid in 1922–23, which will complete the scheme. The Government is irrevocably committed to this expenditure, and we have no comments to make.

The housing position under local authorities', &c., housing schemes was on October 1 as follows:—

	Houses.
Restricted programme	176,000
Number completed	68,550
Number in course of erection	68,730
Number not yet started	38,720

The following particulars show how serious a burden the scheme has thrown on the public purse:—

The average cost of each house will probably work out at	£1,100 per annum.
On which the loan charges represent about 6.8 per cent., or	£75
Towards this sum the net rents provide on the average only	16
Leaving a deficit on each house of ..	59
The contribution from the locality is limited to the produce of a 1d. rate, which works out per house at ..	4
which is the total contribution from the local ratepayer,	
Leaving the taxpayer to find on each house	£55 per ann.

Building costs have fallen recently, but the number of contracts to which the reduced prices apply is insufficient to affect the average materially.

The sum needed for 1922–23 is given as £9,500,000, and we are informed that the full annual charge on completion of the scheme will reach £10,000,000 per annum, and will continue for sixty years, subject to slight measures of relief.

We are advised by the Minister that it is very unlikely that it will ever be possible to increase rents so as to reduce the charge. The lamentable and outstanding feature is the fact that local authorities who administer the schemes, subject to general directions from headquarters, have no longer any direct financial interests in economy. Their liability is limited to the produce of a penny rate, which is greatly exceeded in nearly all cases. This is an extraordinary and anomalous position.

We are much concerned at the heavy liability which has been assumed by the State, and feel that every possible avenue of relief should be actively explored. The only feasible method to reduce the annual charge of £10,000,000 appears to be the sale of the houses. If the houses could be sold at an average price equivalent to 50 per cent. of cost, the effect on the Exchequer would be a net saving of £21 10s. per house sold per annum. There would, in addition, be no further risk in connection with repairs, empties, and non-collection of rent. This saving represents 36 per cent. of present loss, and, if all the houses were disposed of on this basis, would be equivalent to £3,600,000 per annum. Every house sold on this basis would be a real and permanent economy. The Minister of Health is in agreement with us as to the desirability of selling as many houses as possible. On the other hand, he points out that, while the Housing Acts give power to the local authority to sell houses subject to certain conditions, they contain no power which enables the Minister to make the policy of sale effective.

We suggest that the Housing Acts should be amended so as to give the Minister a free hand as regards the sale of houses, and that a well-advertised policy of sale should thereafter be adopted by him. . . . A policy of sale appears to be the only means whereby the heavy burdens on the State in respect of housing commitments can be mitigated.

The Valuation of Goodwill.

On Tuesday, last week, at the College of Estate Management, Professor Lawrence R. Dicksee, M.Com., F.C.A., delivered the fifth of a series of six lectures on "Accounts and Business Organisation." The subject of the lecture was the valuation of goodwill in connection with business undertakings. After defining the nature of goodwill, the lecturer emphasised the fact that a party purchasing goodwill was paying for something which was additional to the profits he might expect to make in building up a new business. It was usual to base the value of goodwill on the average profits of the preceding three or five years; but careful inquiry must be made regarding all the circumstances which might affect the making of those profits. Considerable fluctuations in profits might be caused by good or bad management, or by periods of prosperity or depression which might affect a particular trade only, or which might be national or world-wide in their scope. It might be said, too, that goodwill was only valuable in so far as it was transferable. In some cases it might depend almost entirely upon the presence in the concern of a particular personality. It was very necessary to consider how far the seller of the goodwill was able to place the purchaser in his own shoes. Again, one must not lose sight of the fact that the demand for particular classes of business varied from time to time and that keen competition often resulted in a fancy price being paid for goodwill which it was difficult to reconcile with permanent values.

Valuation.

At the College of Estate Management, recently, Mr. Frank Hunt, B.S.I., continued his course of lectures on "Valuations," the subject of the lecture being valuations under the Housing Acts, 1890-1919. The lecturer dealt with the valuation of land acquired compulsorily under Part III of the Acts for the purpose of providing housing accommodation for the working classes, and explained how the scope of this portion of the Acts had been extended by the Housing, Town-Planning, etc., Act, 1919. It was now possible to acquire compulsorily not only the land necessary for actual housing purposes but also that required for the provision of factories, workshops, places of worship, and other purposes incidental to the development of the land as a building estate. The basis of compensation for land acquired under Part III of the Acts was that laid down in the Acquisition of Land (Assessment of Compensation) Act, 1919. Passing to the acquisition of land in connection with the clearance of slum areas under Parts I and II of the Housing Acts, the lecturer gave an outline of the procedure adopted in such cases, commencing with the making of an "official representation" by the Medical Officer of Health, and concluding with the assessment of compensation by the Official Arbitrator. It was clear, he said, that land situated in a slum area required a different basis of compensation from that applied to other classes of property. The Housing of the Working Classes Act, 1890, had provided a basis of value which at that time had been regarded as extremely drastic, but this had now been superseded by the rules contained in Section 9 and the 1st Schedule of the Housing, Town-Planning, etc., Act, 1919. These rules had yet to be applied to practice, and in a detailed explanation of their nature and probable effect Mr. Hunt emphasised the many serious difficulties which seemed likely to attend such application. The lecture was illustrated by plans of important clearance schemes completed or in progress.

Housing in Birmingham.

The Birmingham Housing Committee has been instructed by the Town Council to carry on with the erection of houses as speedily as possible. The Committee stated that the Birmingham housing scheme was well below the average cost in other towns.

The "Journal" of the Concrete Institute.

With No. 1 of Volume XII, the *Journal* of the Concrete Institute takes a new form. This issue (for January, 1922) contains the Presidential Address, by Mr. E. Fiander Etchells, an outline of Mr. Etchells' career, and official announcements of the Institute. It is proposed to issue the *Journal* in its new form monthly.

THE BUILDING TRADE.

THE ARCHITECT AND THE SPECULATIVE BUILDER.

BY ERNEST B. BETHAM

(*Late Secretary of the Housing Organisation Society, and Regional Housing Inspector*, 1918–21.)

Of the several ways in which those responsible for the Ministry of Health's procedure biassed the State housing scheme in the wrong direction, none contributed so directly to failure as the neglect to realise that the only persons who possessed experience in the quantitative provision of small dwellings were the speculative builders. It is true that the first Director-General of Housing was Sir James Carmichael, but his reputation as a contractor certainly did not rest on the production of working-class houses; there is as much differentiation in building as in architecture, and achievement in one branch does not necessarily mean off-hand success in another. The specialists in the supply of low-rented houses are the house builders, but under the scheme they were not approached till every detail of the prospective houses had been settled. They were confronted with unfamiliar plans, a full-dress specification, and compulsory quantities, and told to price them. The implication was that they needed to be educated architecturally and structurally, but they soon made it clear that they did not intend to be educated at their own expense. Who can blame them? To have put in lower tenders would have appeared either to invite a loss or to write themselves down as jerry-builders.

If Dr. Addison read carefully through the Tudor Walters Report, the Manual, and the subsequent cognate Memoranda that were continuously issued at short intervals, all aiming at being contributory to the unifying purpose of economy, he must have been vastly puzzled at the prices that were approved. Could they not be lessened anyhow? Had every possible means been used to test and reduce them? Yes. The prices approved represented not the contractors' first tenders but the nadir to which they had been brought by the art of Regional Surveyors, after dismayed Commissioners had referred them back for lowering treatment. Argumentative conferences with the builders had been held; priced quantities had been compared with the Regional average, and deflated wherever possible; while structural modifications had been made to such an extent that the cubic contents and superficial areas of the current house had been reduced to the minimum and compared unfavourably with the measurements advised at the commencement of the scheme. Dr. Addison, in his unenviable position of responsibility for getting houses built in public for other people, must eventually have realised that the Hudibrasian reference—

> "O what perils do environ
> Him who meddles with cold iron"—

would make an equally poignant hit if adapted to the case of the housing reformer who passes from the stage of propaganda to the actual production of houses, when questions of cost and speed loom large, and one set of watchers is demanding that everything shall be perfect and another that everything shall be cheap. Architects in charge of schemes could help but little towards lowering prices, since enterprise of that kind had to keep within the prison walls of compound quantities. They were from the first treated by Whitehall as though they had to be trained into efficiency, with the consequent result that they were subject to recurring instructions upon all points in a way that relieved them of responsibility but increased their worry. Moreover, they were put in a Quixotic position in the matter of remuneration, for an architect who lessened cost at the same time lessened his income proportionately to the saving effected.

These comments, and the earlier criticism offered, would be of little moment if they could not be followed by the statement of an alternative procedure which provides such a reconstruction of the relationship between the State, the architect, and the builder as would lead to better results. In outlining this alternative, I write of matters within my own experience. The only standpoint of judging it is the positive one that, except for its operation, the houses to be described would not have been built at all. The choice did not rest between cottages priced on enforced architectural plans or cottages priced on builders' plans (subsequently improved by architects). It was a case of the latter or no houses at all. This is the permanent limiting condition for working-class housing as a whole. If architects hope to achieve what has always eluded them, except under the recent ephemeral conditions of State subsidy, namely, to take part in working-class housing, they must adapt their methods to the financial fact that the builders' capacity for producing economical work has a personal side, and that they have provided, without architectural participation, all the working-class housing that has been built on economic lines. They know better than anyone else how to provide most quantity for least cost. The method will best be illustrated by records of actual happenings, but since the instances to be given occurred in rural areas, it should be stated that the principle of the method is equally applicable to urban developments. At any time it secures lowest cost. The subsequent excerpts will sufficiently show how architects can take the rough but economically healthy stock of the builders' houses and graft on it the amenities.

I have elsewhere stated that permission to try what results could be obtained by going to the builders first was not given till late in the day. So soon as Whitehall authorised this, Major Douglas Wood, the Commissioner on whose staff it was my privilege to serve, allowed me a free hand. The lines worked on were as follows: Several of the areas in which the difficulty of securing acceptable tenders had proved greatest were selected, and the consent of their Councils obtained for the change of procedure. This was willingly given, as the proposal appealed to their business sense. Action in the first place was to inspect any small houses a builder had put up and to obtain a price for the repetition of the type most suited in its accommodation to the scheme in hand. (Ordinarily it is not difficult to ascertain the sum the original house cost.) When asked for his price the builder was informed that everything would be done on the simplest lines in regard to the documentary side of the proposed contract, and no superfluous clerical work would be entailed. Also, that formal priced quantities would not be required, nor any specification except his own, which would be subject to agreed amendment here and there, as also the plan of the house. If the builder offered a satisfactory tender, it was provisionally accepted. Being now in possession of a knowledge of the amount of walled and roofed space that would be available for a certain figure, it was an easy matter to agree the revisions necessary to transform it from a builder's to an architect's cottage; that is, to make it conform to proportion and become free of any undesirable ornament.

In cases where none of the existing small houses erected was suitable for readjustment, a roughly-sketched plan was provided giving the accommodation required. The builder was asked first to make any suggestions for economy that his experience permitted, and then to price it on a fair standard of customary local work. If his price at first was too high, a figure would be indicated at which acceptance would alone be possible. The standard of work would probably differ but slightly in essentials from that put in under "ideal" specifications, for builders have a way in practice of reducing to the local normal a specification which they consider theoretically fine. He would be told, in effect, "£500 is the utmost limit to which we can go; can you build a house to this plan for that sum, that we could pass?"

One of the Councils, after having placed contracts for a certain number of houses, became so dissatisfied with the continuous increase of prices that, though desirous of further building, it resolved that no new tenders should be invited. But on hearing of the possibilities of the common-sense method, it rescinded its resolution and agreed to try the new lines. A contractor at work on the high-priced houses was interviewed. Yes, he was anxious to do his best for the Council, but he could not manage the work for any less figure than held good. There were many worries connected with it from which ordinary building was quite free. Forms, forms, forms, there was always something to fill up! And the plans—they were good plans, but troublesome: "My men are not used to these dinky gables and their blessed valleys; they look at 'em on the drawings and scratch their heads, wondering how to manage the job."—"Didn't they understand their trade?" "Yes; they did; quite good chaps, but only used to plain sailing." He had built cottages before—plenty, and for the Council too, but these were in pre-war days and the plans were easy. He would show us some of the pre-war cottages with pleasure, and would be quite willing to build more like them at a less price than those he was now at work on, always on the understanding that he was not bothered with a lot of forms and clerical work. The pre-war cottages were inspected, and it was arranged that the builder should send in a tender for a repetition of a block of four, as a start. The tender was duly received, and worked out at £575 per house, to which had to be added £35 for haulage, fencing, paths, and water, making the gross cost £610 per house, more than 25 per cent. less than prices at that time. The tender was provisionally accepted, subject to such amendments in the plan as the architect might think necessary. Any amendment that meant additional expenditure was to be extra.

The architect then took the plan of the existing block on which the price had been given, and amended it as follows:—

(1) Lower pitched and hipped roof with deep eaves substituted for the straight one.

(2) The copper, while not being cut off from the central flue, was moved from under the main roof to the back addition.

(3) Scullery was arranged in back addition, and the internal walling on ground floor was readjusted to allow for the inclusion of a parlour.

These proposals gave the builder a little shock, but he fell in with them good-naturedly. The house as now planned fulfilled the Ministry's current requirements for floor areas and cubic contents, and was duly approved. The extra work caused by the revision was agreed at £31 extra per house, making the gross total £641.

In one of the villages where the new cottages were to be built, a pair of the kind whose increasing cost had brought the Council's scheme to a deadlock was nearly finished. The cost of these was £858 per house. They are excellently designed and distinctly pretty. The roofs are tiled, there are front gables, and the walls are roughcast. Inside there are a large living-room, a scullery and small offices on the ground floor. But despite its external attractiveness, probably the average tenant with a family would, the rents being equal, prefer one

of the block of four that has a parlour. He certainly would if the rent of the parlour cottage were a little less, as proportionately it well could be, the difference in cost between the two being £217. It might have been thought that the contractor preferred to build the more expensive type, but the reverse was the case, for on signing for the new blocks he asked to be released from building more of the £858 kind; he had a contract for two more pairs that he had not begun. The Council agreed to this readily enough, for it meant a saving of £868 on the four. The contractor is a competent and substantial man and knows his business.

A second example of the working of the method may be given, the ground being somewhat different. A Council having an extremely large area encountered much difficulty in obtaining tenders on the plans and specifications that had been prepared, coupled with the demand for priced quantities, etc. One village in particular badly needed cottages, but the right tenders were not procurable. In consultation with the acting architect I found that a builder who lived in the village had recently built a cottage for a farmer at a cost of something under £700, a low figure as prices then ran.

The farmer's cottage was good in respect to its accommodation, and had been put gable-end to the road in order to get the sun in the living-room, but, to put it mildly, it lacked charm. It was of a long, narrow type frequent in the district; its straight, eaveless roof was slated, and it had the usual narrow slits of common sash windows. Discussing the question of a tender based on the accommodation of the cottage but with a few adjustments, the contractor expressed his willingness to give one if the contract would be under the same conditions as held good with the farmer, *i.e.*, with the use of as little paper and ink as possible. His tender came in at £740 for a detached cottage similar to the one inspected. Prices had risen considerably in the couple of years since the latter was built. The cube contents was 11,905 ft.

The necessary adjustments were considered and were eventually agreed as under:—

(1) Pantile roof to be substituted for slates (it is a pantile district); roof to be hipped and have sprocket eaves.

(2) Wide style windows to take the place of the exclamation-mark sort in the existing cottage.

(3) A front entrance to be supplied and internal arrangements, stairs, etc., to be adjusted thereto. (The original cottage had only one entrance, at the back.)

(4) Wall of lean-to at back to be carried up, and roof extended in order to increase bedroom space.

(5) Pairs to take the place of detached cottages.

(6) Several minor matters.

The acting architect pencilled out a plan embodying the above, and, in consideration of the saving made by having pairs instead of singles, and pantiles instead of slates, the builder put in a revised estimate at only £10 more per cottage, *i.e.*, £750, inclusive of underground rainwater cistern (it is a fen district where rainwater is the only drinking supply), cesspool, and drainage. For paths and fencing £12 10s. was required, making the gross total £762 10s. The floor areas are as follows:—

Living-room, 14 ft. 6 in. by 13 ft. 6 ins.; parlour, 13 ft. 6 in. by 10 ft. 6 in.; larder and scullery, 13 ft. 9 in. by 4½ ft.; coals and e.c. (detached building in yard), 9 ft. 6 in. by 7 ft. 9 in.; bedrooms (1), 14 ft. 6 in. by 10 ft. 3 in.; (2) 13 ft. 6 in. by 10 ft. 6 in.; (3) 14 ft. by 7 ft. 10 in.

At this time tenders in the district for a parlour type of the official kind of plan were in the proximity of £1,000.

The contractor furnished a specification that did not fill a sheet of foolscap; and this was officially approved after one or two slight amendments were agreed. He is a reliable man, who lives in the village, and the work he has put into the cottages is excellent. His character is a sufficient guarantee of his work.

Instances of the above kind could be multiplied, and considerably varied, were there space to do so. It is a detail of interest, however, to say that as one result of negotiations a plan for a pair of cottages was evolved from a prevalent pre-war type of various local builders that by an easy alteration of windows would suit any aspect. This plan in preference to official plans always secured lower cost.

An important meaning, apart from the question of cost, attaches to the procedure that has been described. Educationally, the effect of the enforced perfected plans of architects, aiming at complete and immediate transformation of the style of building small houses, must fail. Builders, when free to build speculatively again, will not adopt the style of the plans to which willy-nilly they have had to build under the subsidy, for reasons similar to those which made the contractor, in the instance recorded, anxious to drop the £858 for a £641 one. But undoubtedly the builders mentioned (who may be regarded as representative) when they build commercially again are likely to carry on with the improvements that have been made on their own plans.

THE LATE SIDNEY J. DICKSEE.

AN APPRECIATION BY MR. WILLIAM A. PITE, F.R.I.B.A.

The news is announced of the passing away of Sidney John Dicksee, managing director of Messrs. Foster & Dicksee, Ltd., of Rugby and London, at the comparatively early age of sixty-six years, from influenza after a brief illness.

This sad event makes a very real gap in the architectural and building world, in London in particular, and is the cause of deep and lasting sorrow to his many friends. Mr. Dicksee was a man of wide outlook, of a sunny disposition and attractive personality, and became the devoted friend of those who were admitted to his confidence. It can truly be said of him that he lifted his calling from things merely materialistic to a natural dignity which his untiring interest invested with a beauty of its own. Everything created by his firm under his personal direction was thorough and desirable. Mr. Dicksee's firm has made a lasting mark on its generation of building methods, and its widespread organisation called for no mean qualifications and ability. Nothing was too much trouble for our departed friend, and he entered with the keen enthusiasm of youth into the work in hand as much as if he were the designer of the conception instead of the creator into actuality. Those of us, as practising architects, who have had the valued privilege of being asociated with him mourn his loss in a very real way, and his memory will ever be an inspiring incentive.

Mr. Dicksee was a man of wide and cultured ideas, replete with helpful suggestion, and whatever the magnitude of the work might be there was always present a dignity of direction and a calmness of assurance which dispersed, as it were magically, unnecessary worries, though he, possibly, was not a stranger to such assaults. No doubt some record of the many works executed during his tenure of direction will be forthcoming, but it will suffice, among larger works undertaken by Messrs. Foster & Dicksee, to name the new War Office, Longrove Asylum, the new King's College Hospital, the Record Office, Chancery-lane, and the Bankruptcy Office.

NEW BUILDINGS IN LONDON.

KENSINGTON.—The extension to the Savings Bank in Blythe-road, for H.M. Office of Works, is now well advanced. The contractors are Messrs. W. G. Tarrant, Ltd., Byfleet, Surrey; the contractors for the steel work are Messrs. Dorman, Long & Co.; and for the stonework, Bath Stone Firms, Ltd.

SOUTH KENSINGTON.—A good start has been made with the new Spirit Building at the Natural History Museum, for H.M. Office of Works. The building is of reinforced concrete construction. The contractors are Messrs. W. G. Tarrant, Ltd., Byfleet, Surrey.

MARYLEBONE.—Another block of labour-saving flats is now in course of erection on a large site having a frontage near St. John's Wood-road. They are being built to the designs of Councillor A. Davis, of Service Flats, Ltd., 24, Grove End-road, W. 8. It is understood all the flats are to be self-contained with constant hot-water supply, central heating, and modern conveniences. They will range from one to eight rooms. A number of the flats will be specially designed for women workers, and a restaurant will be attached. It is understood the first section may be ready for occupation by September next.

EAST CENTRAL.—The large site occupying Nos. 84-89, Wood-street and Nos. 21-22, Silver-street has now been sold to the Government by Messrs. Edwin, Fox, Burnett & Baddeley, of 9-10, Fenchurch-street, and a new telephone exchange will probably be erected on the site, full particulars of which are obtainable on application to H.M. Office of Works, Storey's Gate, S.W.

Extensions are now being made to Messrs. Thomas Cook & Son's branch at 99, Gracechurch-street. The interior and the shop front of the adjoining premises (No. 98) are being dismantled and the dividing wall between the two shops will be demolished in order to convert the two shops into one. This will necessitate steel girders to take the place of the wall. The architects are Messrs. Smee & Houchin, of Byron House, Fleet-street, and the contract is being carried out by Messrs. Higgs & Hill, Ltd., of Crown Works, South Lambeth-road, S.W. 8. The shop-window frames, fittings, etc., are being made by the builders.

STEPNEY.—A large site, having a considerable frontage in Commercial-road and Salmon-lane, is now being cleared in readiness for the foundations of a new hostel for British and Foreign Seamen. The housebreaker is Mr. C. Griffiths, of 34a, Ben Jonson-road, E. 1, who is engaged upon the demolition of the existing old houses and shops. The architect is Mr. Thos. Brammall Daniel, of "Ventnor," Chislehurst. The headquarters of the British and Foreign Sailors' Society are at 680, Commercial-road. No contracts have yet been placed in connection with this scheme, but it is understood tenders will be called for in about six weeks' time.

A new billiard hall, having accommodation for 16 full-size tables, will shortly be erected on a site occupying Nos. 385-387-389, Commercial-road. The general contract has been let to Messrs. Jas. Jennings & Sons, of 108, Whitechapel-road, E. 1, who have commenced dismantling the interior of the existing premises. The contract for the steelwork has been placed with Messrs. Dorman, Long & Co., Ltd., of 4 Central Buildings, Westminster, S.W.

SHADWELL.—Work is now taking place in connection with the construction of King Edward's Memorial Park, occupying a large site fronting the south side of High-street, extending east from Glamis-road. The property previously occupying a large portion of this site has been entirely demolished and the ground cleared and levelled, and a section has already been turfed. The scheme includes the provision of tennis courts and playgrounds. The City of London Corporation, which owns the site, has handed the deeds over to the London County Council, and the latter has caused the work to be put in hand.

THE INDUSTRIAL COUNCIL FOR THE BUILDING INDUSTRY.

MR. J. STORRS (Chairman) occupied the chair at a quarterly meeting of the Industrial Council for the Building Industry, held at Montagu House, Whitehall, S.W., on Friday last week.

The Constitution of the Council.

After the minutes of the previous meeting had been passed, the CHAIRMAN referred to the motion (moved by Mr. Roland B. Chessum and Mr. E. J. Brown) passed at the last meeting of the Council, to the effect that it be an instruction to the Administrative Committee to consider proposals or suggestions for the improvement of the operations of the Council, and report thereon. The matter, he said, had been taken up by the Administrative Committee, but the replies to the Committee's request for proposals had not come in in sufficient time for them to be submitted to that meeting. He did not think it was any secret that unless the constitution and the rules governing the Council were very considerably amended the duration of the body would not be very long. If the Council came to an end it would be a great pity after all the valuable work that had been expended by its members in the interests of the building industry, and he trusted the members of the Council would exercise patience in view of the criticisms that would no doubt be considered by the Administrative Committee. The Committee hoped to consider the matter in April, and the criticisms, &c., received would be tabulated and presented at the next meeting of the Council.

Balance Sheet.

The balance sheet, which showed a balance of £683 14s. 8d., was presented by MR. J. BATCHELOR (Treasurer), and adopted.

SAFETY AND WELFARE COMMITTEE.

The Safety and Welfare Committee presented two reports, one on silicosis among stonemasons, and the other on the draft regulations for building operations and woodworking machinery.

Silicosis Among Stonemasons.

Under this head, the Committee reported that after considering much evidence it had come to the conclusion that the case for the inclusion of stonemasons in the Silicosis Act was an unanswerable one.

A memorandum on the subject, by Professor E. L. Collis, M.D., was put forward, which stated that during the three years 1910–12 there were in England and Wales 6,559 deaths from all causes among stone-getters, dressers, and masons, aged 25 years and over, who numbered 99,274 persons. The normal percentage of deaths due to phthisis (and fibroid disease) among all males aged 25 years and over was rather less than 12; at that rate there would have occurred among masons about 780 deaths from that cause. In fact, 1,135 deaths were ascribed to phthisis (1920) and fibroid disease of lung (115)—an excess of about 355 cases in the three years. Had the Act then applied, it was reasonable to consider that compensation for death would have been payable for at least that number, and that compensation for total or partial disablement (under medical certificate) would have been due to a further and larger number. In comparing death-rates (whether general or from particular diseases) in an industry with those among the ordinary population, it was necessary to bear in mind the fact that the prevalence of disease was influenced largely by age. At certain ages persons were less liable than at others to be attacked or to succumb to certain diseases. It would, therefore, be obviously wrong to compare the death-rates from (say) phthisis of a class of persons containing few of a susceptible age with the death-rates of another group largely made up of persons of ages at which phthisis was specially prevalent. The total number of deaths (306) in the granite counties is small, and may not adequately represent the mortality. The number for the limestone counties was 930, and for the sandstone counties, 1,170. A table was also given by Professor Collis, which showed that the mortality was very much greater in sandstone districts (Cheshire, Lancashire, and Northumberland) than in limestone districts or granite districts, the limestone districts coming second as to mortality and granite districts third.

The adoption of the report was moved by MR. J. P. COX (Employers) and seconded by MR. J. BARRON (Operatives).

MR. J. E. DROWER (Surveyors' Representative) said the figures showed that the mortality amongst stonemasons which could be attributed to their trade was not so great as in the trades already scheduled, and he did not think the case for the inclusion of stonemasons in the Silicosis Act was a very good one. It was a curious fact that stonemasons were practically immune from other diseases of the lungs, and that might be taken into consideration by the Home Secretary when the case was put before him as a set-off against the report of the Committee.

MR. S. STRANKS (Operatives) said it was not altogether fair to draw conclusions from a comparison between the classes of workers who came under the Silicosis Act, as dry-grinders had the highest mortality of any workers in the country. The disease had had deplorable effects in the stonemason's trade, and it had practically wiped out the generation of stonemasons which existed in Lancashire ten years ago. It was possible, however, to guard against it to a great extent, and he asked the Council to support the report. There had certainly been an improvement in the mortality during the past few years, but that was due to the improved conditions generally with regard to housing, wages, &c., and did not indicate that the disease had been checked.

MR. PICKLES (Operatives) also supported the report, and appealed to the Council to look at the question from the point of view of the alleviation of human suffering.

Th CHAIRMAN said he had no doubt silicosis had a very serious effect on stonemasons, and expressed the opinion that the percentage of deaths among stonemasons was considerably higher than in any other section of the building industry.

MR. COX stated that it was the intention of the Committee to present the report to the Secretary of State with a view to stonemasons being included in a scheme of compensation under the Workmen's Compensation (Silicosis) Act, 1918.

The report was adopted, and a resolution passed that it be sent to the adherent bodies for consideration, any observations or amendments to be sent not later than April 1 next.

Building Operations.

The Committee expressed satisfaction with the draft regulations for building operations issued by the Secretary of State, which followed the recommendations made by the Committee and approved by the Council.

Woodworking Machinery.

The only criticisms of the draft regulations for woodworking machinery (given in *The Builder* for January 6 last) had been received from the National Federation of Building Trades' Employers, and these had been referred to the Committee for consideration. After hearing a statement of the reasons for the objections from a representative of the Federation, the Committee made the following recommendations:—

"*Definitions.*—Paragraph 5.—That this definition should be amended to read as follows: 'Within reach' means within 6½ feet from the floor, or from any other point to which any person has right of access during the recognised discharge of his duties while the machinery is in motion.

"Paragraph 6.—Delete the words 'any part of,' making the definition read: 'Underground room means a room which is so situate,' &c.

"*Duties of Occupiers.*—Clauses 7 and 14.—Substitute '1st March, 1924,' for 1st January, 1923.

"Clause 10.—It is feared that the administration of this Regulation, in the absence of local assessors to whom appeal could be made by the occupier, would lead to some amount of friction, which the Committee is desirous of avoiding. If it is possible for an arrangement to be made on the lines suggested below, there is no objection to Clause 10 remaining in its present form, but otherwise the Committee recommend its deletion.

"*General.*—The Committee is of the opinion that the satisfactory administration of these Regulations would be greatly facilitated by the setting up of local joint committees, equally representative of employers and operatives, for the purpose of co-operating with H.M. Inspectors of Factories in securing observance of the Regulations.

"If it can be arranged that every occupier has the right of appeal to assessors who have a knowledge of the trade, before any question of prosecution arises the most serious objection to the enforcement of these Regulations will have been met. The Committee therefore recommends that representation should be made to the Secretary of State with a view of arranging for the administration of the Regulations on the lines suggested.

"It was agreed that particulars of the recommendations of the Committee should be sent to the Secretary of State, with the qualification that they are not to be regarded officially as expressing the views of the Industrial Council until they have been approved by that body."

In moving the adoption of the report, MR. Cox said since the report had been prepared the Home Office had received further objections from associations interested in woodworking machinery, one of which, from an important association, asked that certain words which the Committee had agreed to delete should be re-inserted; another important association had expressed the opinion that the agreed alterations would weaken the regulations. Under these circumstances the Secretary of State had asked that a joint conference might be held to consider the matter further. He moved that the Council accept the report, and agree with the suggestion of the Secretary of State that a conference be held.

MR. BARRON seconded the motion, and said he thought the objectors might be classified under three heads: (1) those who objected through lack of knowledge of the meaning of the draft regulations; (2) those who tried to amend and better the proposals; and (3) those whose sole purpose in objection was on the grounds of the personnel of the Committee.

MESSRS. KENNEDY, WILSON, and BECKETT (Operatives) urged that the fullest possible safeguards should be supplied in all industrial processes, and that the operatives should have a voice in the making of the conditions under which they would be called upon to work.

It was agreed to adopt the report, and to request the Safety and Welfare Committee to appoint a deputation to meet the Secretary of State on the subject.

EDUCATION COMMITTEE.

MR. SAMUEL SMETHURST (Employers) submitted the report of the Education Committee, and drew attention to the alterations which had been made in the apprenticeship scheme in consequence of the resolution passed at the last meeting of the Council. The Committee had drafted the following revisions for the approval of the Council:—

"III. Part IV.—Clause 11, section (ii) to read as follows:—

"(ii) Instruction in the Continuation School. —(*a*) Subject to the proviso contained in subsection (*c*) hereof, all boys indentured as apprentices under this scheme shall, as a condition of their indenture during the first two years of the apprenticeship, attend a day technical

school for not less than one whole day per week, or two half-days per week (or a minimum of eight school hours per week), as may be found most convenient to the employer and the apprentice, without deduction from his wages. He shall further be bound during this period to attend evening classes for not less than two evenings per week during the school session. The school attendances shall be certified from time to time to the local Building Trades' Apprenticeship Committee, the employer and the guardian.

"(*b*) From sixteen to eighteen years of age the apprentice shall attend, during the school session, evening classes in connection with the work of his trade for not less than two evenings per week, and attendance at such classes should be continued during the remainder of the period of apprenticeship.

"(*c*) Provided always, that it shall be recognised that the provision in respect of a particular craft for attendance at a day technical school, as indicated in (*a*) above, shall be subject to the local associations of employers and of operatives representing the craft in question on the local Building Trades' Apprenticeship Committee, agreeing to anticipate the operation of the Education Act of 1918, until such time as the clauses in that Act relative to compulsory attendance at day classes are put into force in the appropriate way.

"IV. Part V, Clause 12.—The term 'Bank Holidays' to be amended to read 'recognised local holidays.'

"V. Addendum.—The Addendum to be deleted and the following Note substituted therefor: 'The Addendum containing a scale of wages has been deleted from this amended scheme in consequence of the variety of conditions prevailing throughout the country affecting boy labour.' The Committee strongly recommends that the settlement of rates of wages under the indenture be referred to the National Wages and Conditions Council for the Building Industry with a view to the establishment of a relative standard throughout the industry.

"VI. The Indenture.—The indenture has been amended to embody the amendments of the scheme as mentioned above. In addition a new provision has been included in regard to payment during sickness."

There was, he said, a little irritation felt in connection with the delay of the report; the Committee ought by now to have been in a position to be doing effective work, but there seemed to be much criticism and hindrance. The Committee had accepted practically all the proposals in the criticisms, and now asked the Council to consent to the revisions and to send them to the adherent bodies for consideration. With regard to the suggested scale which was originally embodied in the addendum, and which was now deleted, it had been pointed out that it would be preferable if the wages of apprentices were agreed and fixed by local committees of employers and operatives in the various areas. This objection had been met by the deletion of the suggested scale of wages. A new clause had been inserted regarding payment of wages during sickness by which the apprentice would receive full pay during a period of sickness up to a maximum of six weeks. A clause had also been added to the effect that if an apprentice refused to carry out the indenture, or wilfully absented himself from work, he would receive no pay at all. Owing to certain misunderstandings which had arisen the plumbers were not yet taking part in the scheme, but he had no doubt that those misunderstandings would be cleared away in the near future.

The report was seconded by MR. COX.

MR. S. STRANKS expressed his regret that the original report had been amended. He said he believed that under the apprenticeship scheme they would be able to revive that direct contact between employer and employed which obtained in the old guilds, and that it would revive more respect on both sides. At the present time neither employer nor operative had any respect for the apprenticeship system. He was surprised that the National Federation of Building Trades' Employers had suggested the alteration of the two most important provisions in the scheme under consideration. Although this country was generations behind such keen competitive countries as Germany in the matter of technical education, certain people seemed to be going out of their way to delete such important provisions in the scheme as the technical and theoretical education of apprentices simply because it would involve the absence of the apprentices from work on two half-days a week. The attempt to regulate the wages of apprentices was also objected to, but the suggested scale would not harm any particular centre, because it would be relative to the standard rate of wages obtaining in each district. Why should the power to regulate the wages of apprentices be passed over to the various centres, some of which were not so enlightened as others? The main intention of the Committee had been to attract more boys into the industry, and some inducement must be offered them, but if in some areas the wages of apprentices were fixed on a low standard it would prevent labourers and others in poor circumstances from apprenticing their sons into the industry. It had been said that the cost of the scheme would be £13 per apprentice to the employer (although really it would be passed on to the community), but was £13 too much to give a labourer's son a chance to become a mechanic? He did not think it was so much a question of expense as of prejudice.

The CHAIRMAN pointed out that the modifications in the report had been agreed at the last meeting of the Council, and were put forward by the Committee according to instructions given by that meeting.

MR. SMETHURST said there were provisions in the scheme by which any district could carry on a scheme apart from the Education Act of 1918.

MR. GEORGE HUBBARD (Architects' representative) said the report suggested that there should be a standard of wages for apprentices, but he thought there should be a higher rate of pay for those who did the most or best work.

MR. WILSON (Operatives) said the ideal of the Committee was to place apprenticeship in the building industry on a better footing than before, from the point of view of both the employer and operative. The amended scheme did not in any way depart from that ideal, but compromises had had to be made. He did not believe the employers wished to reduce the standard of apprenticeship. There was a good deal of opposition to the standard of wages for apprentices suggested, but so long as the position where the parents of a poor boy could not apprentice him to a skilled trade could be overcome (and he believed under the scheme it would be overcome), he was not so much concerned with the actual amount of the wages. On the question of education, it had been necessary to face practical facts; in some cases it would be quite impossible to hold classes of one, two, or three boys, and until the Education Act of 1918 came into full operation that position had to be faced. But in the larger centres there would be opportunities for proper classes, and he did not think that any objection to the scheme would be raised in such areas—certainly not by reputable firms. The only alternative to the scheme now put forward was the present state of affairs, where half-trained lads entered the industry under all sorts of conditions and were afterwards turned out for inefficiency and became a drug on the labour market and a menace to the whole country.

MR. J. GIBSON (Operatives) said he was disheartened by the report. He and the other operatives' leaders were of the opinion that every man engaged in the building industry should hold credentials of efficiency in his respective craft. But the present scheme was entirely in the interests of the employer, for whom it was a sound investment. If the scheme were properly carried out every man would be properly trained, and would therefore be of much more use to his employer.

MR. THOMAS FOSTER (Employers) said he thought no particular harm would be done if the suggested wage-scale were put in force straight away, as one of the greatest deterrents to apprenticeship in the past had been the low wage-scale. He would like to see the wages of apprentices definitely fixed throughout the country rather than it should be left to the different areas, some of which were not as enlightened as they might be. The painting trade accepted the scheme a long while ago, and the wage-scale was in operation and embodied in the indentures in that trade. The painting trade already had about 37 day classes in the country, and not only technical training but general education also was given. In Burnley the painters' apprentices attended school for one day a week and three evenings a week.

MR. JOHN (Secretary of the Committee) said there seemed to be some misapprehension in the minds of the speakers. The Education Act of 1918 had not been put in operation throughout the country generally, but it was not necessary for that Act to be put in operation to enable building trades' apprentices to receive instruction under the scheme; the scheme was entirely separate from the Act, and was already being put in operation in certain areas where the Act was not in force. There were 31 committees actually in operation, and 97 conferences had been held in various districts, all but one of which had adopted the scheme as originally drafted; it remained to be seen, however, what attitude would be taken now the scheme had been altered.

The report was adopted, and a resolution was passed that the report be sent to the constituent bodies for consideration, with a strong recommendation for its approval and a request that any comments on it be sent to the Committee by April 1 next.

The SECRETARY (Mr. A. J. Lloyd) announced the receipt of a letter from Mr. H. Blackman, of the Ministry of Labour (Liaison Officer on the Council), stating that owing to re-arrangements at the Ministry of Labour that would probably be the last occasion on which he would be in the position of acting as Liaison Officer, and expressing his great appreciation of the uniform courtesy that had always been extended to him by that body.

MR. BARRON, MR. E. J. BROWN, and MR. THOMAS FOSTER spoke of the great services Mr. Blackman had rendered to the Council whilst he had been connected with it, and it was resolved that a letter be sent to the Minister of Labour expressing the regrets of the Council at the loss of Mr. Blackman's valuable services.

The Next Meeting.

It was decided to hold the next meeting in London on May 18 and 19 next.

Builders' Estates.

Mr. Edward Hadley, of Heaton Moor, retired builder, who died on December 19, left estate valued at £12,868, with net personalty £5,955.

The late Mr. William House, of Luton, builder, left estate valued at £6,349.

The Manufacture of Cast-Iron Baths.

We take the following from a daily newspaper: "In the course of the proceedings in connection with the application made by the National Light Castings Association for protection, under the Safeguarding of Industries Act, against the importation of cast-iron baths from Germany, reference was made to the introduction of a machine for the manufacture of baths, for which the Light Castings Association are the sole agents for Great Britain. What are understood to be the first of these machines to be introduced to this country are at present being installed in several of the Falkirk iron foundries. It is claimed for them that they will not only revolutionise the present system of bath manufacture, but very materially lessen the cost of production, although even with this there will still, it is maintained, remain the necessity for protection against the importation of the much more cheaply produced German made article. The introduction of the machines, of which the chief feature is their labour-saving qualities, will probably result in the throwing idle of a considerable number of skilled workers at present engaged in the bath-moulding trade."

BRISTOL ASSOCIATION OF BUILDING TRADES' EMPLOYERS.

THE annual meeting of the Bristol Association of Building Trades' Employers was held at Bristol Guildhall last week.

Mr. A. J. Pitt (Secretary) in his report said it was gratifying to note that a feeling of optimism prevailed in the building industry. Probably more time had been devoted to the apprenticeship question during the past year than almost any other, and efforts had been made to induce employers to take as many as possible with a view to maintaining a sufficiency of labour. The Association undertook the payment of all fees of apprentices attending the classes organised by the Education Committee during the first year of its existence. The plasterers' classes were commenced in October last, under the auspices of the Association. Considerable enthusiasm was shown at the inaugural meeting, and there was every reason to believe that the classes, one elementary and one for more advanced students, would result in lasting benefit to the trade. During the past year the congratulations of members were extended to Mr. F. N. Cowlin on his selection as Sheriff of Bristol, and Councillor Alfred Bowling on his elevation to the magisterial bench. Both were past-presidents of the Association.

On the motion of Mr. W. Fisher (the retiring President), Mr. H. C. Hayes was elected President, and Messrs. C. R. Setter and W. S. Weeks as senior and junior Vice-President respectively. Mr. E. J. Neale was re-elected Honorary Treasurer, and Messrs. G. W. Humphreys and F. A. R. Woodward, Honorary Auditors. The following members were elected to form the Committee: Messrs. G. Broadbent, F. N. Cowlin, A. Dowling, A. Perkins, C. T. Tucker, and E. W. Walters. The two immediate past presidents, Messrs. W. Foster and A. W. Potter, are *ex-officio* members of the Committee.

PONTYPRIDD & RHONDDA MASTER BUILDERS' ASSOCIATION.

MR. D. REES (Treherbert) presided last week at the annual dinner at Porth of the Pontypridd and Rhondda Valleys Master Builders' Association.

In proposing the toast of "The Rhondda Urban District Councils," Mr. F. G. Rideout (Trealaw) urged that the authorities should not make conditions too hard for the small builders and that efforts should be made to pay over the retention money in quicker time.

In responding, Councillor T. R. Davies (Tonypandy) said the Rhondda Council had tried on numerous occasions to get the waiting period for retention money reduced, but had failed.

A presentation consisting of a gold watch and a case of cutlery was made to Mr. and Mrs. A. W. Julian (Pontypridd). Mr. Julian is President of the Joint Council of the South Wales Building Trades' Federation and an ex-President of the South Wales Master Builders' Association. The presentation was made by Mr. T. P. Davies (Treorchy), Secretary of the Association, and Mr. Fred Lewis (Bargoed), President of the South Wales Association, Mr. E. W. King (Newport), and Mr. I. Watkins (Cardiff), Secretary of the South Wales Association, also paid tributes to the services rendered to the trade in general by Mr. Julian, extending over a period of twenty-four years.

The toast of "The Pontypridd and Rhondda Valleys Master Builders' Association" was submitted by Mr. T. G. Williams (Cardiff), who emphasised the success of private enterprise in pre-war days in catering for the housing needs of the growing population of Rhondda.

The President and Mr. D. Anderson (Port Talbot) responded, and a speech was also made by Major D. Watts Morgan, D.S.O., M.P.

The toast of "The Architects and Surveyors" was proposed by Mr. A. W. Julian, and Mr. E. W. Lowe (Pontypridd) and Mr. David Thomas (Porth) replied.

THE FORTY-FOUR-HOUR WEEK.

IN the course of a statement to a Press representative on the proposal to extend the present working week in the building industry, Mr. R. Coppock, Secretary of the National Federation of Building Trade Operatives, said last week: "In asking that the hours of labour be extended, the employers give as their reason that the cost of production is economically unsound. But during the past twelve months the cost of house-building has been reduced by over 100 per cent., and it is now about 100 per cent. above the pre-war cost. The Ministry of Health has recently approved the building of houses at £500, which a year ago would each have cost £1,000. This is actually being done while the cost of building materials is from 150 to 200 per cent. above pre-war prices, and the cost of labour 100 per cent. above the pre-war rate. The cost of building has fallen while the 44-hour week has been in force. To extend the hours at the present time would be dangerous in view of the fact that there are over 160,000 building trade workers unemployed. The cost of production of houses will be materially reduced when the prices of building material come down. Considering that the cost of building is now only 100 per cent. higher than before the war, it is for the Government to proceed with the building schemes which the high prices of a year and more ago have held up. It would surely be more economical to employ the workless building trade operatives on these schemes than to pay them unemployment doles. The operatives believe that the reduction of building costs is the result of more stable conditions in the industry, and that the 44-hour week has been primarily responsible for the increased productivity which has taken place. It is undeniable that the total hours worked in the industry are greater as a result of the shorter working week than they were when the week was one of 50 and 55 hours. The operatives are very much opposed to any extension of the hours, as they believe that the employers' wish to extend them is not based upon any economic facts, and cannot be justified on the ground of the general welfare of the industry."

NORTHAMPTON MASTER BUILDERS' ASSOCIATION

THE annual dinner of the Northampton Master Builders' Association was held at Northampton last week. Councillor J. C. Wareing (President) was in the chair, and was supported by the Mayor (Ald. G. S. Whiting), Lt.-Col. J. Brown, Councillor J. J. Martin (Messrs. J. Martin, Ltd.), Mr. W. W. Webster (Past-President), Mr. F. H. Mardlin (Chief Constable), Mr. A. Fidler (Borough Engineer), Mr. W. R. Kew (Deputy Town Clerk), Mr. F. Tomlinson (Borough Water Engineer), and a large number of members.

Proposing the toast of "The President," Councillor Martin said Mr. Wareing had done a large amount of public work, and he hoped he would soon be wearing the Mayoral robes.

Mr. Wareing, responding, said twelve months ago the building trade was in a far different position from that of to-day, and it seemed hardly possible that such a change could come about. The building trade to-day should be the busiest industry in the country because it was most needed. They could not altogether blame the workmen; they must blame those responsible for the excessive price charged for materials. It was deplorable that in a big town like Northampton the building trade was practically at a standstill. He thought every effort should be made to get back to something like an economic price for their work. If this were not done he could only see a very bad time ahead. If the problem were grappled with at once every man would be employed.

"Success to the Association" was proposed by Lt.-Col. John Brown, who said the present difficult period was not a question of wages only, but of prices also.

Mr. H. A. Glenn responded.

TRADE FACILITIES ACT.

WITH the passing into law of the Trade Facilities Act, British manufacturers and merchants may now be enabled to give credit from twelve months up to six years, according to the commodity, to any of their foreign customers. This means that foreign buyers of all sorts of commodities can now buy British goods without putting down a single penny at the time of purchase. The Act is an arrangement by which the British Government is prepared to grant credit on behalf of any responsible British manufacturer and merchant who needs it, and it contains within its provisions facilities which, if properly used, cannot fail to be of great benefit. Actually, it is an extension of the Overseas Trade (Credits and Insurance) Act of September, 1919, but its scope is much more comprehensive; one of its points is that the buyer is not troubled over the transaction in any way for the ultimate repayment of the credit, which may extend over one year or six, according to his requirements. Where the credit is not required for more than a year, the British Government will back the bill for the total value of the invoice, and where longer terms are required the Government backing will be to the extent of 85 per cent. of the Bill. In short, foreign and overseas buyers of all nations who want credit approach the British manufacturer or exporter of their choice, and he arranges everything with the Export Credits Department of the Department of Overseas Trade. The scheme applies to every country in the world except Russia and India, and can be used for any transaction, however small.

The fact that any British manufacturer or exporter can obtain these credits has already made itself felt in connection with the forthcoming British Industries Fair. The coming Fair is the eighth of the series, and will be held simultaneously in London and Birmingham, from February 27 to March 10 next. Practically all trades are included, and already the number of representative firms who have taken space makes it clear that 1922 will prove another great step in its progress.

Proposed New Cinemas.

Plans have been approved for the erection of a new cinema at Newark. The architects are Messrs. F. Hopkinson & Co., of Bridge-street, Worksop.

Plans have been approved for the erection of a new cinema at Brighton, for Mr. W. Morris, of Sheffield. The architect is Mr. P. A. Hinchliffe, of 19, St. James'-street, Sheffield.

Neath and District Master Builders' Association.

The annual meeting of the Neath and District Master Builders' Association was held on Wednesday, when Mr. Thomas Cole was elected President for the ensuing year; with Mr. S. L. Collins, of Neath, as Vice-President. The latter was also elected as the Association's representative on the South Wales Joint Industrial Council, and (along with Mr. T. Cole and Mr. H. Waring) representative of the Association on the South Wales Federation. Mr. T. P. Gower, of Briton Ferry, was appointed Treasurer; and Mr. T. Evans, of Neath, Auditor. Mr. W. J. Card, the retiring President, was accorded a vote of thanks for his services and appointed on the Executive Committee.

LAW REPORT.

Building By-Laws.

At the Southampton Police Court, on February 1, fourteen summonses to recover penalties amounting in the aggregate to £4,900, inflicted by the court for non-compliance with the building by-laws in respect of houses erected in the town, were brought against a builder in the district, who was represented by Mr. G. Trapnell.

Prosecuting, Mr. A. J. Rogers said defendant had not complied with the orders made by the court in July last. Three of the informations had relation to breaches of the building by-laws by failing to put in proper joists, and the remaining eleven summonses related to defective bricks. There were appeals in connection with all these cases, in relation to some of which certain conditions were imposed. These conditions had not been complied with. One was that defendant should either do the necessary work to comply with the by-laws within six weeks, or, having made application for a special case to be stated, to lodge it in the King's Bench Division within six weeks of the closing of the Winchester circuit. This had not been done, and the Corporation had no alternative but to ask for these penalties to be paid.

The Chairman: Do I understand that the penalties in each case have been paid, but not the continuing penalties?

Mr. Rogers: Yes, sir. This relates solely to the continuing penalties.

Mr. J. A. Crowther (Borough Engineer), in giving evidence, said he visited the premises in question and the work had not been done in compliance with the order of the court.

Mr. Trapnell said the present proceedings were without precedent, and it was unprecedented that matters of continuing penalties should be enforced pending an appeal, and he urged the court not to make any order on these summonses at all. Defendant had stated his case, which had been sent to the Clerk of the Peace and the Town Clerk, but the Corporation had taken no effective steps to carry the matter one stage further. Defendant could do nothing until that case came back. If defendant were suddenly called upon to pay this big sum for continuing penalties it meant ruin. It would be unfair to order him to pay nearly £5,000 under such circumstances, which might deprive him of funds to fight the appeal.

Mr. Rogers contended that defendant had not lodged his special case within the prescribed time. If the Corporation had delayed taking these proceedings for another two days it too would have been out of time.

After retiring, the magistrates decided that the penalties must be enforced, and defendant was ordered to pay the amount specified within one month, or, failing distress, to go to prison for six months.

The Works Committee of the Southampton Corporation has resolved upon the appointment of a special sub-committee to consider the revision of the building by-laws with the power, if considered advisable, of consulting architects and builders thereon.

Brighton and Hove Association of Building Trades' Employers.

The annual general meeting of the Brighton, Hove and District Association of Building Trades' Employers was held, under the chairmanship of Mr. L. A. Elliott, at Brighton, last week. Mr. Elliott was re-elected Chairman, with Mr. R. J. Cox, Vice-Chairman; Mr. F. Parsons, Honorary Treasurer; and Messrs. Winter and Goord, Honorary Auditors; while the vacant places on the Committee will be filled by Messrs. H. W. Swann, H. Lynn, H. Baker, F. L. Botting, E. A. Gates, and A. R. Cox. It was decided to alter the annual subscriptions to the following: For members employing up to 10 persons, £1 1s.; 20, £1 11s. 6d.; 30, £2 2s.; 50, £3 3s.; 75, £4 4s.; and 100 or more, £5 5s. It was agreed to invite the Southern Federation to hold its midsummer meeting in June at Brighton.

RATES OF WAGES IN THE BUILDING TRADE.

The following are the rates of wages in the building trade in England and Wales. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Labourers.	Bricklayers' Labourers.	Plasterers' Labourers.
Aberdare	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Accrington	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Altrincham	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Ashton-under-Lyne	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Barnsley	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Barrow-in-Furness	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Barry	1/9	1/9	1/9	1/9	1/9	1/9	1/9		1/4½	
Bath	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3½	
Bedford	2/2	2/2	2/2	2/2	2/2	2/2	2/2		1/9½	
Birkenhead	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Birmingham	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Bishop Auckland	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Blackburn	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Blackpool	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Bolton	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Bournemouth	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3½	
Bradford	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Bridgwater	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½		1/2½	
Brighton	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3½	
Bristol	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Burnley	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Burton-on-Trent	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½		1/5½	
Bury	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Cambridge	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3½	
Cardiff	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Chatham	1/7	1/7	1/7	1/7	1/7	1/7	1/7		1/3	
Chelmsford	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3½	
Cheltenham	1/9	1/9	1/9	1/9	1/9	1/9	1/9		1/4½	
Chester	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Chesterfield	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Colchester	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3½	
Coventry	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Crewe	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½		1/5½	
Darlington	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Derby	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Doncaster	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Dudley	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½		1/5½	
Durham	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
East Glam. and Mon. Valleys	2/0	2/0	2/0	2/0	2/0	2/0	2/0	1/7	1/7	
Exeter	1/8	1/8	1/8	1/8	1/8	1/8	1/7		1/3½	
Folkestone	1/7	1/7	1/7	1/7	1/7	1/7	1/7		1/3	
Gloucester	1/9	1/9	1/9	1/9	1/9	1/9	1/8		1/4½	
Grantham	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½		1/5½	
Grays	2/0	2/0	2/0	2/0	2/0	2/0½	1/11		1/7	
Grimsby	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Great Yarmouth	1/7	1/7	1/7	1/7	1/7	1/7	1/7		1/3	
Guildford	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3½	
Halifax	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Harrogate	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Hartlepools	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Hastings	1/7	1/7	1/7	1/7	1/7	1/7	1/7		1/3	
Hereford	1/9	1/9	1/9	1/9	1/9	1/9	1/8		1/4½	
Huddersfield	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Hull	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Ipswich	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3½	
Lancaster	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Leamington Spa	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½		1/5½	
Leeds	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Leicester	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Lichfield	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½		1/5½	
Lincoln	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Liverpool	2/2	2/2	2/2	2/2	2/2	2/2	2/2		1/9½	
Llanelly	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
London	2/0	2/0	2/0	2/0	2/0	2/0½	1/11		1/7	
Loughborough	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Luton	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3½	
Maidstone	1/7	1/7	1/7	1/7	1/7	1/7	1/7		1/7	
Manchester	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Mansfield	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Merthyr Tydfil	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Middlesbrough	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Newcastle-on-Tyne	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Newport, Mon.	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/5½	
Northampton	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½		1/3½	
Norwich	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/7	
Nottingham	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/4½	
Oakham	1/9	1/9	1/9	1/9	1/9	1/9	1/9		1/7	
Oldham	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/3½	
Oxford	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/5½	
Plymouth	1/10	1/10	1/10	1/10	1/10	1/10	1/9		1/7	
Pontypridd	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/3½	
Portsmouth	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/7	
Preston	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/3½	
Reading	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/7	
Rochdale	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/3	
Rochester	1/7	1/7	1/7	1/7	1/7	1/7	1/7		1/5½	
Rugby	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½		1/3½	
St. Albans	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/7	
St. Helen's	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/5½	
Scarborough	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½		1/7	
Sheffield	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/5½	
Shrewsbury	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½		1/3½	
Southampton	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3½	
Southend-on-Sea	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/7	
Southport	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
South Shields	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Stockport	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Stockton-on-Tees	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Stoke-on-Trent	2/0	2/0	2/0	2/0	2/0	1/11	2/0		1/3½	
Stroud	1/8	1/8	1/8	1/8	1/8	1/8	1/7½		1/7	
Sunderland	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Swansea	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Taunton	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3½	
Torquay	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3½	
Tunbridge Wells	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/7	
Wakefield	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/5½	
Walsall	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½		1/7	
Warrington	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
West Bromwich	2/0	2/0	2/0	2/0	2/0	2/0	2/0		1/7	
Wigan	2/0	2/0	2/0	2/0	2/0	2/0	1/8		1/3½	
Windsor	1/8	1/8	1/8	1/8	1/8	1/8	2/0		1/7	
Wolverhampton	2/0	2/0	2/0	2/0	2/0	2/0	1/8		1/5½	
Worcester	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½		1/5½	
York	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½		1/5½	

(For rates of wages in the Building Trade in Scotland, see page 281.)

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained.

BUILDING AND PAINTING.

FEBRUARY 18.—**Blandford.**—SWIMMING BATH.—Erection of a swimming bath, for the T.C. Mr. R. W. Ashman, Borough Surveyor, Blandford. Deposit £2.

FEBRUARY 18.—**East Sussex.**—BUILDING AND REPAIRS.—Work at Park Pale Farm, Glottenham Estate, Parish of Mountfield, near Robertsbridge, Sussex. (1) Brick-built cottage, (2) repairs and alterations to existing buildings, (3) new farm buildings, for the East Sussex Agricultural Committee. Mr. R. H. B. Jesse, Director of Agriculture, Mountfield House, Lewes. Deposit £2 2s.

FEBRUARY 18.—**Huddersfield.**—WAR MEMORIAL.—Erection of Huddersfield War Memorial. Mr. H. Sutcliffe, Borough Architect, 1, Peel-street, Huddersfield. Deposit, £5 5s.

FEBRUARY 18.—**Various Places.**—PAINTING.—Painting at the undermentioned places: (1) Great Howard-street and South Docks Goods Stations, and Liverpool to Kirkdale and Bank Hall; (2) Aintree to Lostock Hall, &c.; (3) Daisy Field Junction to Padiham Junction; (4) Bolton to Blackburn, &c.; (5) Bolton and Wigan Engine Sheds; (6) Bacup, Accrington, Rose Grove, and Colne Engine Sheds, and Carriage Sheds at Colne; (7) Victoria Station, Manchester, and Manchester Loop Line; (8) Hollinwood Branch; (9) Halifax Station and Ovenden Branch; (10) Bailiff Bridge and Clifton-road Branch, and Low Moor, Sowerby Bridge, and Mirfield Engine Sheds; (11) Barnsley and Silkstone Branches; (12) Wakefield Engine Shed and Enginemen's Lodging House; (13) Knottingley to Goole; (14) Fleetwood Engine Shed and Engineering Works, for the London and North-Western Railway Co. Divisional Engineer, Hunts Bank, Manchester.

FEBRUARY 20.—**Aylesbury.**—PAINTING.—Painting, &c., of the Town Hall staircase, &c., and Cambridge-street property, for the T.C. Mr. W. H. Taylor, Borough Surveyor, Town Hall, Aylesbury.

FEBRUARY 20.—**Edinburgh.**—ALTERATIONS.—Alterations at offices, 321–329, High-street, for the T.C. Mr. J. A. Williamson, City Architect, Public Works Office, City Chambers, Edinburgh.

FEBRUARY 20.—**Harrogate.**—BOILER SETTINGS, &c.—Building of two boiler settings and a chimney at the Gas Works, Ripon-road, for the Harrogate Gas Co. Mr. F. H. Robinson, Engineer, Gas Office, James-street, Harrogate.

FEBRUARY 20.—**High Wycombe.**—ALTERATIONS.—For alterations and renovations to the Infirmary at the Union School, Bledlow, for the Board of Guardians. Mr. B. L. Reynolds, Clerk, 12, Easton-street, High Wycombe.

FEBRUARY 20.—**Manchester.**—ALTERATIONS.—(*a*) Builders' work in connection with alterations to existing building in Greenwood-street, Manchester, for the purposes of an electricity sub-station; (*b*) steelwork, &c., required in connection with the same. Mr. F. E. Hughes, Secretary, Electricity Department, Town Hall, Manchester. Deposit £2 2s. each specification.

FEBRUARY 20.—**Newton Abbot.**—HOUSES.—Erection of ten houses, for the U.D.C. Mr. Josias C. Beare, architect, 42, Devon-square, Newton Abbot. Deposit, £2 2s.

FEBRUARY 20.—**Plymouth.**—REPAIRS.—Repairs to 6, Morley-place, Plymouth. Specification from Medical Officer of Health's (Housing) Department.

FEBRUARY 20.—**Queensbury.**—HOUSES.—For erection of 18 scullery and 4 parlour houses, for the U.D.C. Messrs. John Drake & Son, architects, Queensbury.

FEBRUARY 20.—**Tredegar.**—RECORDING GAUGE HOUSES.—Construction of two recording gauge houses, for the U.D.C. Mr. D. Walter Davies, Waterworks Manager, Tredegar. Deposit £5.

FEBRUARY 20.—**Worthing.**—STORE.—For erection of additional store accommodation at the electricity works, for T.C. Mr. Frank Roberts, Borough Surveyor, Municipal Offices, Worthing. Deposit £1 1s.

FEBRUARY 21.—**Carlton.**—HOUSES.—For erection of 14 parlour type houses and 10 living-room type on the Conway-road site, for the U.D.C. Surveyor's Office, Carlton. Deposit £1 1s.

FEBRUARY 21.—**Carndonagh.**—SCHOOL.—For erection of new National School at Glentogher, Carndonagh, for Commissioners of Public Works. Rev. M. McGeown, Carndonagh, Co. Donegal.

FEBRUARY 21.—**Chesterfield.**—HOUSES.—Erection of 77 houses on St. Augustine's-road site, in three contracts, for the T.C. Messrs. Rollinson & Son, architects, 10, Corporation-street, Chesterfield. Deposit £1 1s.

FEBRUARY 21.—**Durham.**—ALTERATIONS AND ADDITIONS.—Alterations and additions to the Ministry of Pensions Hospital, Shotley Bridge, Co. Durham, for The Commissioners of H.M. Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s.

FEBRUARY 21.—**Isleworth.**—ALTERATIONS.—Alterations to the entrance of the West Middlesex Hospital, including the provision of new gates, for the Guardians. Messrs. Dodge & Reid, 120, High-street, Brentford, Middlesex.

FEBRUARY 21.—**Sheffield.**—HOUSES.—For erection of 50 additional houses on the Stubbin Estate, Firth Park, for the T.C. Mr. F. E. P. Edwards, City Architect, Town Hall, Sheffield. Deposit £2.

FEBRUARY 21.—**Silsden.**—HOUSES.—Erection of 10 houses, for the U.D.C. Mr. J. Hartley, architect, Skipton.

FEBRUARY 21.—**Wigan.**—ALTERATIONS.—Alterations at Wigan Post Office for the Commissioners of His Majesty's Office of Works. Contracts' Branch, King Charles-street, London, S.W.1. Deposit £1 1s.

FEBRUARY 22.—**Barrow.**—HOUSES.—Erection of 50 houses at Ocean-road, Walney, for the T.C. Borough Engineer, Barrow.

*FEBRUARY 22.—**Burry Port.**—HOUSES.—Erection of 20 "B" Type houses on the Newfoundland Site, Burry Port, being the first portion of their scheme for 82 houses for the U.D.C. Messrs. Chedburn & Chalmers, 74, Stepney-street, Llanelly.

FEBRUARY 22.—**Chatham.**—FENCING.—Supply and fixing 1,390 lineal yds. of chestnut stake fencing and three gates, for the T.C. Mr. R. L. Honey, Borough Surveyor, Town Hall, Chatham.

FEBRUARY 22.—**Edinburgh.**—VARIOUS WORKS.—General repairs and renewals of structures and machinery plant after military occupation, at Bangour Village Asylum, for the Edinburgh District Board of Control. Mr. James D. Gibson, surveyor, 60, Frederick-street, Edinburgh.

FEBRUARY 22.—**Edmonton.**—PAINTING.—For external painting of North Middlesex Hospital, Edmonton; and (*b*) Enfield House, Enfield; and (*c*) Fortescue Villas, Enfield, for the Board of Guardians. Mr. J. C. S. Mummery, architect, 34, Bloomsbury-square, W.C.

FEBRUARY 22.—**Hackney.**—MAISONETTES.—Erection of 62 maisonettes, for the B.C. Borough Engineer, Town Hall, Mare-street, Hackney, E.8. Deposit £1 1s.

FEBRUARY 22.—**Leicester.**—HOUSES.—Erection of 60 houses: Block 1, 28 houses; Block 2, 32 houses, for the City Corporation. Mr. E. George Mawbey, City Surveyor, Wyggeston House, Highcross-street, Leicester. Deposit £3 3s. per block.

FEBRUARY 22.—**Rollesby.**—SCHOOL.—Erection of public elementary school at Rollesby, for the Norfolk E.C. Secretary, Education Office, Shirehall, Norwich. Deposit, £1 1s.

FEBRUARY 23.—**Barnoldswick.**—ALTERATIONS.—For alterations and repairs to Barnoldswick Gisburn-road Council School, for the West Riding E.C. Education Department, County Hall, Wakefield.

FEBRUARY 23.—**Castleford.**—CLOAK ROOM.—Provision of new boarded partitions, lavatory basins, &c., in the formation of a new cloak-room at temporary school premises, St John's Memorial Hall, Lock-lane, Allerton Bywater, Castleford, for the West Riding E.C. Education Department, County Hall, Wakefield.

FEBRUARY 23.—**Edinburgh.**—DEMOLITION.—Taking down old slaughter-house entrance, in West Fountainbridge. Mr. John Stewart, Executive Officer, Education Offices, Castle-terrace, Edinburgh.

FEBRUARY 23.—**Loughborough.**—HOUSES.—Erection of 20 houses on Thorpe Cottage housing site. Mr. W. Grainger, Acting Borough Surveyor, Town Hall, Loughborough. Deposit £5 5s.

FEBRUARY 23.—**Mirfield.**—ALTERATIONS.—For alterations to shop premises, Eastthorpe, Mirfield. Messrs. J. Berry & Son, architects, 3, Market-place, Huddersfield.

FEBRUARY 23.—**Rossington.**—FENCE.—Repairs to wood fencing at Rossington New School, for the West Riding E.C. Education Department, County Hall, Wakefield.

FEBRUARY 24.—**Cardiff.**—ALTERATIONS.—Alterations at the Custom House, Cardiff, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, S.W.1. Deposit £1 1s.

FEBRUARY 24.—**London.**—ALTERATIONS, &c.—(1) Alterations at the Post Office, Lewisham, S.E.2; (2) erection of huts at Canning Town, E., for the Commissioners of H.M. Works, &c. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit £1 1s. in each case.

FEBRUARY 27.—**Brighton.**—HOUSES.—Erection of alternatively 14, 18, or 32 houses on portion of the Queen's Park-road Housing site, for the T.C. Messrs. Clayton & Black; Messrs. T. Garrett & Son; Mr. E. Wallis Long; or Mr. W. H. Overton, architect, Brighton. Deposit £1.

FEBRUARY 27.—**Dunfermline.**—PAINTING, &c.—For painting and glazier work, for 22 houses. Burgh Engineer, City Chambers, Dunfermline.

FEBRUARY 27.—**Eastbourne.**—HOUSES.—Erection of 33 houses on the Old Town site, for the T.C. Mr. L. Roseveare, Borough Engineer, Town Hall, Eastbourne. Deposit, £2 2s.

FEBRUARY 28.—**Doncaster.**—OFFICES.—Erection of office buildings in Wood-street, for the T.C. Mr. R. E. Ford, Estates Surveyor, 3, Priory-place, Doncaster. Deposit £2 2s.

FEBRUARY 28.—**Ramsgate.**—ALMSHOUSES.—Erection of 10 almshouses, for the T.C. Mr. E. Healey, architect, Turner-street, Ramsgate. Deposit £2 2s.

FEBRUARY 28.—**Stanley.**—HOUSES.—Erection of houses at Stanley, co. Durham, for H.M. Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit, £1 1s.

*MARCH 1.—**London, S.W.17.**—BUILDING.—Rebuilding and strengthening portions of boundary-wall at Grove Hospital, Tooting Grove, Tooting Graveney, S.W.17, for the Metropolitan Asylums Board. Office of the Board, Embankment, E.C.4. Deposit £1.

MARCH 1.—**Paddington, W.1.**—BUILDING WORKS.—Extension of the existing main corridor and of other works at the Hospital, 285, Harrow-road, W.9, for the Guardians of the Poor of the Parish of Marylebone. Mr. P. Biddulph Hancock, Clerk to the Guardians, Guardians' Offices, 313-319, Harrow-road, W.9. Deposit, £3 3s.

MARCH 1.—**Wandsworth.**—ALTERATIONS, &c.—For small alterations and re-drainage at 38, St. Ann's-hill, Wandsworth, for the Board of Guardians. F. J. Curtis, Clerk, Union Offices, St. John's-hill, Wandsworth, S.W.18. Deposit £2.

MARCH 2.—**Mansfield.**—HOUSES.—Erection of 24 houses, Type A, Booth-crescent, in the said Borough, for the Borough Council on their Bull Farm site. Mr. Waude Thompson, Borough Engineer and Surveyor, Market-street, Mansfield. Deposit £1.

BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Labourers.	Bricklayers' Labourers.	Plasterers' Labourers.
Aberdeen	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/7	1/5½ to 1/6½		
Airdrie	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½		
Alexandria	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½		
Arbroath	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/6½		
Ayr	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/9	1/5½ to 1/6½		
Bathgate	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/9	1/5½ to 1/6½		
Blairgowrie	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	—	—		
Bo'ness	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/-	1/8		
Coatbridge	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½		
Dumbarton	2/0	2/0	2/0	2/0	2/0	2/0	1/9	1/7½		
Dumfries	1/10	1/10	1/10	1/10	1/10	1/11½	1/8	1/4½	1/4½	1/5½
Dundee	2,0	2/0	2/0	2/0	2/0	2/4	1/9	1/7		
Dunfermline	2/0½	2/0½	2/0	2/0	2/0½	2/0½	—	1/7½		
Duns	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/0		
Edinburgh	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½		
Falkirk	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½		
Fort William	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/2½		
Galashiels	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	—	—		
Glasgow	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/7½		
Greenock	2/0½	2/0½	2/0	2/0	2/0½	2/0	1/9	1/6½ to 1/7½		
Hamilton	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/9	1/7½		
Hawick	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/8	1/3½		
Helensburgh	2/0½	2/0½	2/0	2/0½	2/0½	2/0	1/9	1/7½		
Inverness	1/11½	—	‡	1/7	1/6½	1/9	1/6	1/0½		
Kilmarnock	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/7		
Kirkcaldy	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/6½		
Kirkwall	1/9	1/9	1/9	1/9	1/9	1/9	—	1/2		
Lanark	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7		
Motherwell	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½		
Perth	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/9	1/7½†		
Stirling	2/0	2/0	2/0	2/0	2/0	2/0	2/0½	1/7		
Stirlingshire (Eastern District)	2/0	2/0	2/0	2/0	2/0	2/0	1/9	1/7		
Wishaw	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½		

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on p. 280.

† Under unemployment relief scheme, 11d.

MARCH 2.—**Rolestown.**—REPAIRS.—For renovations and repairs to R.C. Church, Rolestown, Co. Dublin. Messrs. Wm. H. Byrne & Son, architects, 20, Suffolk-street, Dublin.

✱MARCH 3.—**Brierley Hill.**—ALTERATIONS.—Alterations at the Post Office, Brierley Hill, for the Commissioners of H.M. Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s.

MARCH 4.—**Helston.**—HOSPITAL.—Erection of Helston and District Cottage Hospital. Mr. W. J. Johns. Hon. Secretary, Helston.

MARCH 5.—**Hull.**—HOUSES.—Erection of 74 houses on the West Hull Housing Site, for the T.C. City Architect's Department. Guildhall, Hull. Deposit £2 2s.

MARCH 6.—**Crayford.**—BUILDING, ROADS, SEWERS.—Building of 14 parlour type and 36 non-parlour type houses, including roads and sewers in connection with same, for the Crayford Urban District Council. Mr. Walter F. Bickford, Engineer and Surveyor, Council Offices, Crayford, Kent. Deposit £3 3s.

✱MARCH 7.—**Southend-on-Sea.**—CONVENIENCES AND SHELTERS.—Supply and erection of men's and women's conveniences at the Old Pier Head, and the supply and erection of shelters on the extension, for the County Borough. Mr. R. H. Dyer, Borough Engineer, Municipal Buildings, Southend-on-Sea. Deposit £2.

✱MARCH 10.—**Greenwich, S.E.10.**—HOUSES.—Erection and completion of 80 houses in two sections. Section A: 22 pairs of B3 type, and 2 pairs of B4 type. Section B: 1 pair of A3 type, and 15 pairs of B3 type, for the Greenwich Borough Council, on their Charlton Estate (portion of). Mr. Alfred Roberts, Architect, 92, London-street, Greenwich. Deposit £2 2s.

MARCH 10.—**Hants.**—REPAIRS AND MATERIALS.—Works contracts from April 1, 1922, at various stations in the North Aldershot Royal Engineer District of the Aldershot Command. Royal Engineers' Office, Marlborough Lines, North Aldershot, Hants.

NO DATE.—**Barnsley.**—ALTERATIONS.—For alterations to the "Britannia" Picture Palace, Britannia-street, Barnsley. Specifications at "Cosy" Picture Palace, Pitt-street, Barnsley.

NO DATE.—**Barnsley.**—ALTERATIONS.—For alterations to Imperial Hotel and reconstruction of garage and warehouse off Eldon-street, for Messrs. Jas. Fox & Sons. Messrs. Dyson, Cawthorne & Coles, architects, 10, Regent-street, Barnsley.

NO DATE.—**Chilworth.**—RE-ERECTION.—For taking down and removing corrugated iron building near station and re-erection as village hall in New-road, for Chilworth Village Hall Committee. Mr. A. E. Finch, Durness Cottage, Chilworth, nr. Guildford.

NO DATE.—**Dorchester.**—CLEANING.—Carrying out certain extra cleaning at the Dorchester Church of England Schools twice a year. Mr. H. O. Lock, Secretary, 24, High West-street, Dorchester.

NO DATE.—**London.**—VARIOUS WORKS.—For approved list of contractors to be invited to tender for work in connection with the Council's educational institutions. The lists referred to are: (1) new buildings, &c.; (2) structural alterations; (3) cleaning and painting, including minor repairs; (4) drainage and sanitary work; (5) temporary iron buildings (erection and removal and re-erection); (6) iron staircases; (7) heating. Architect, New County Hall, S.E.1.

FURNITURE, MATERIALS, etc.

[FEBRUARY 18.—**Bedford.**—ROAD MATERIALS.—Supply to the C.C. of road materials and cartage. County Surveyor, Shire Hall, Bedford.

FEBRUARY 18.—**Chester.**—MATERIALS.—Supply to the Cheshire County Council of granite macadam and chippings, tarred material, tar compounds, tar spraying, steam rolling, &c. Mr. W. Holland, County Surveyor, The Castle, Chester.

FEBRUARY 18.—**Cornwall.**—ROAD MATERIAL.—Supply of tar, bitumen, &c., for the Main Roads Committee of the County Council. Mr. L. D. Thompson, County Surveyor, County Hall, Truro.

FEBRUARY 18.—**Haywards Heath.**—TAR.—Supply of about 11,000 galls. of refined coal tar to the U.D.C. Mr. G. Plummer, Surveyor, Urban Council Offices, Haywards Heath.

FEBRUARY 18.—**Silsden.**—RETORTS, &C.—Supply of retorts, fireclay goods and silica goods, for the U.D.C. Gas Department. Mr. M. Driver, Gas Works, Silsden, near Keighley.

FEBRUARY 18.—**Stafford.**—MATERIALS.—Supply of stores and materials to the T.C. Mr W. Plant, Borough Engineer, Borough Hall, Stafford.

FEBRUARY 18.—**Truro.**—TAR.—Supply of tar bitumen, &c., to the Cornwall C.C. Mr. L. D. Thompson, County Surveyor, Truro.

FEBRUARY 20.—**Chailey.**—MATERIALS.—Supply of road materials to the R.D.C. Mr. R. P. Cheale, Surveyor, West-street, Lewes.

FEBRUARY 20.—**Colne.**—MATERIALS.—Road and other materials, for Highways Department of T.C. Mr. T. H. Hartley, Borough Engineer, Town Hall, Colne.

FEBRUARY 20.—**Farnham.**—MATERIALS.—Supply of road and other materials to the U.D.C. Surveyor, Council Offices, Farnham.

FEBRUARY 20.—**Guildford.**—CLEANING MATERIALS.—For supply of cleaning materials, brushes, brooms, &c., for schools for the Education Committee. Mr. F. S. Tosswill, Secretary, Education Office, Park-street, Guildford.

FEBRUARY 20.—**Rawtenstall.**—MATERIALS.—Supply of materials to the T.C. Borough Surveyor, Town Hall, Rawtenstall.

FEBRUARY 20.—**Richmond (Surrey).**—MATERIALS.—Supply of road and other material to the T.C. Mr. J. H. Brierley, Borough Surveyor, Town Hall, Richmond, Surrey.

FEBRUARY 20.—**St. Marylebone.**—MATERIALS.—Supply of materials to Highways Department. Highways Engineer, Town Hall, Marylebone-road, N.W.1.

FEBRUARY 20.—**Swindon.**—MATERIALS.—Supply of materials to the Great Western Railway Co. Stores Supt., Swindon.

FEBRUARY 20.—**Waltham.**—MATERIALS.—Supply to the U.D.C. of granite, flints, gravel, hoggin, ballast and sand, tar-macadam, and tar-spraying. Mr. W. C. Holloway, Surveyor, Town Hall, Waltham Abbey.

FEBRUARY 20.—**Warrington.**—GRANITE SETTS.—Supply to the T.C. of granite setts. Mr. A. M. Ker, Borough Engineer, Warrington.

FEBRUARY 20.—**Warrington.**—MATERIALS.—Supply to Tramways Committee of varnishes, scrap metal, &c. Tramways Manager, Car Sheds, Mersey-street, Warrington.

FEBRUARY 21.—**Ashford.**—MATERIALS.—Supply of 1,060 cub. yds. 2 in. broken granite, basalt, or cold blast furnace slag, to the U.D.C. Mr. Wm. Terrill, Surveyor, 5, North-street, Ashford.

FEBRUARY 21.—**Deptford.**—MATERIALS.—Supply of materials to the B.C. Mr. Arthur Purkis, Town Clerk, Town Hall, New Cross-road, S.E.14.

FEBRUARY 21.—**King's Lynn.**—ROAD MATERIALS.—Supply of road materials to the T.C. and tar spraying. Borough Surveyor, Town Hall, King's Lynn.

FEBRUARY 21.—**Norwich.**—MATERIALS.—Supply to the Norfolk C.C. of granite, slag, and tarred macadam. Mr. W. W. Gladwell, County Surveyor, The Shirehouse Norwich.

FEBRUARY 21.—**Poole.**—MATERIALS.—Supply of granite and fine tarmacadam, and hire of road rollers, to the T.C. Mr. S. J. Newman, Borough Surveyor, Municipal Buildings, Poole, Dorset.

FEBRUARY 21.—**Sleaford.**—GRANITE.—Supply of granite to the U.D.C. Mr. J. W. Bell, Clerk, 27, Carr-street, Sleaford.

FEBRUARY 21.—**Wellingborough.**—MATERIALS.—Supply of materials to the R.D.C. Mr. H. G. Cordon, Surveyor, Commercial-place, Wellingborough.

FEBRUARY 22.—**Boston.**—MATERIALS.—Supply of road materials, to the R.D.C. Mr. C. H. Adcock, Clerk, 10, New-street, Boston.

FEBRUARY 22.—**Goole.**—MATERIALS.—Supply of road materials to the U.D.C. Mr. J. H. Castle, Surveyor, Council Offices, Goole.

FEBRUARY 22.—**Hammersmith.**—STORES.—Supply of stores to the Electricity Department of the B.C. Mr G. G. Bell, Borough Electrical Engineer, 85, Fulham Palace-road, W.1.

FEBRUARY 22.—**London.**—MATERIALS.—Supply to the South Indian Railway Company, Ltd., of (1) hardware; (2) oils and colours. Mr. W. B. Reynolds, 91, Petty France, S.W.1. Charges, £1 and 10s. respectively.

FEBRUARY 22.—**Salford.**—MATERIALS.—For supply of road and other materials, for the T.C. Borough Engineer, Town Hall, Salford.

FEBRUARY 22.—**Twickenham.**—MATERIALS.—Supply of materials to the U.D.C. Mr. Fred. W. Pearce, Surveyor, Town Hall, Twickenham.

FEBRUARY 23.—**Durham.**—ROAD MATERIALS.—Supply of road materials, for the R.D.C. Mr. Geo. Gregson, Surveyor, 38, Saddler-street, Durham.

FEBRUARY 23.—**London.**—MATERIALS.—Supply of stores to the Metropolitan Water Board. Chief Engineer, New River Head, 173, Rosebery-avenue, E.C.1.

FEBRUARY 23.—**Stratford-on-Avon.**—MATERIALS.—Supply of road and other materials to the T.C. Mr. F. W. Jones, Borough Surveyor, Municipal Offices, Stratford-on-Avon.

FEBRUARY 23.—**Swansea.**—MATERIALS.—Supply to the T.C. of stores, stone, ironwork, &c. Borough Engineer, Guildhall, Swansea.

FEBRUARY 24.—**Bognor.**—STONEWARE PIPES.—Supply to the U.D.C. of stoneware pipes. Mr. G. Jubb, Clerk, Council Offices, Bognor.

FEBRUARY 24.—**Merton and Morden.**—MATERIALS.—Road materials for the U.D.C. Mr. C. J. Mountifield, Clerk, Offices, Kingston-road, Merton, S.W.19.

FEBRUARY 24.—**New Romney.**—TAR.—Supply of 4,000 gallons of dehydrated tar and 3,000 gallons of crude tar, for the T.C. Mr. W. Lamacraft, Town Clerk, Town Hall, New Romney.

FEBRUARY 24.—**Wetherby.**—MATERIALS.—Supply of road materials to the U.D.C. Mr. F. Suttel, Surveyor, Council Offices, Wetherby.

FEBRUARY 25.—**Dumfries.**—TIMBER.—Supply of home or foreign timber, to be used in the erection of the Highland and Agricultural Society's show, at Dumfries, on 18th to 21st July. Mr. J. Reid, 55, Blenheim-place, Aberdeen.

FEBRUARY 25.—**Huntingdon.**—ROAD MATERIALS.—Supply of broken stone, slag, and tar macadam to the C.C. Mr. H. Leete, County Surveyor, Walden House, Huntingdon.

FEBRUARY 25.—**Llandaff and Dinas Powis.**—ROAD MATERIALS.—Supply of road materials to the R.D.C. Mr. W. Farrow, 20, Park-place, Cardiff.

FEBRUARY 27.—**Great Yarmouth.**—ROAD MATERIALS.—Supply of gravel and broken granite to the T.C. Mr. J. W. Cockrill, Borough Surveyor, Town Hall, Great Yarmouth.

FEBRUARY 27.—**Leeds.**—MATERIALS.—Supply of materials to the Tramways and Highways Department. Mr. J. B. Hamilton, General Manager, 1, Swinegate, Leeds.

FEBRUARY 27.—**Littlehampton.**—TARMACADAM.—Supply of about 360 tons of 2½ in., 1½ in., and ¾ in. tarmacadam to the U.D.C. Surveyor, Town Offices, Littlehampton.

FEBRUARY 27.—**Southwell.**—ROAD MATERIAL.—For supply of road material for one year, for the R.D.C. Mr. Robert Morris, Highway Surveyor, Eastthorpe, Southwell.

FEBRUARY 27.—**Westminster.**—MATERIALS.—Supply of materials to the C.C. Mr. J. Hunt, Town Clerk, City Hall, Charing Cross-road, W.C.2.

FEBRUARY 27.—**Whitefield.**—STORES.—Supply of road and other materials to the U.D.C. Mr. George M. Denton, Surveyor, Council Offices, Whitefield.

FEBRUARY 27.—**Woodford.**—MATERIALS, &C.—Supply of road materials and scavenging services, for the U.D.C. Mr. William Farrington, Surveyor, Council Offices, Woodford Green, Essex.

FEBRUARY 28.—**Flaxton.**—ROAD MATERIALS.—Supply of whinstone and broken slag to the R.D.C. Surveyor, 5, Mille Crux-terrace Huntington, York.

FEBRUARY 28.—**Ryde.**—TAR.—Supply of refined tar and other material for road surface treatment to the U.D.C. Mr. T. J. Fawdry, Town Clerk, Ryde.

MARCH 1.—**Caistor.**—MATERIALS.—Supply to the R.D.C. of granite, slag, tar macadam, and distilled tar. Surveyor, Council Offices, Caistor, Lincolnshire.

MARCH 1.—**East Ham.**—MATERIALS.—Supply of materials to the B.C. Mr. C. E. Wilson, Town Clerk, Town Hall, East Ham, E.

MARCH 1.—**Lancashire.**—GRANITE SETTS.—For supply of 10,800 tons of 4 in. by 5 in. granite setts, for the C.C. Mr. W. H. Schofield, County Surveyor, County Offices, Preston.

MARCH 1.—**Southwark.**—MATERIALS.—Supply of materials to the B.C. Mr. P. H. Gray, Town Clerk, Town Hall, Walworth-road, S.E.17.

MARCH 6.—**Billericay.**—MATERIALS.—Supply of road materials to the R.D.C. Mr. F. E. Ennals, Surveyor. Sheeley-road, Hutton, Essex.

MARCH 8.—**London.**—ROAD MATERIALS.—For the supply and delivery of road materials (granite, gravel and ragstone) to the Royal Parks, for the Commissioners of H.M. Works, &c. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1.

MARCH 8.—**Macclesfield.**—SUPPLIES.—Supply of paints, &c., glass and electrical goods to the Cheshire County Mental Hospital. Mr. W. G. F. Tingay, clerk, Hospital, Parkside, Macclesfield.

MARCH 13.—**Uckfield.**—MATERIALS.—Supply of road materials to the R.D.C. Capt. E. W. Ray-Johnson, Surveyor, Buxted, Sussex.

MARCH 15.—**Blackwell.**—ROAD MATERIALS.—For supply of road materials for one year, for the R.D.C. Mr. H. Silcock, Surveyor, 67, Westgate, Mansfield.

MARCH 15.—**Hampstead.**—MATERIALS.—Supply of electrical engineer's stores to the B.C. Mr. A. P. Johnson, Town Clerk, Town Hall, Haverstock-hill, N.W.

MARCH 18.—**Egypt.**—STORES.—Supply of stores to the Ministry of Interior, Egypt. Department of Overseas Trade, 35, Old Queen-street, S.W.

NO DATE.—**Oundle.**—MATERIALS.—Supply of granite, slag, concrete flags, bituminous grouting material, and steam rolling, for the U.D.C. Mr. H. W. Bolton, Surveyor, Council Offices, St. O'Syth's-lane, Oundle.

ENGINEERING, IRON AND STEEL.

FEBRUARY 18.—**Bradford.**—TRAMRAILS.—Supply of 650 tons of steel girder tramrails. Mr. F. Marsden, City Engineer, Town Hall, Bradford.

FEBRUARY 18.—**Kirkcaldy.**—SEA WALL AND ESPLANADE.—Construction of a sea wall and esplanade on the foreshore in front of Sands-road, and for the improvement and widening of Sands-road, for the T.C. Mr. Wm. L. Macindoe, Town Clerk, Kirkcaldy. Deposit, £3 3s.

FEBRUARY 18.—**Oldbury.**—ELECTRIC INSTALLATION.—Installation of electric lights and fittings in the Public Buildings and Library, for the U.D.C. Mr. Roland Fletcher, Surveyor, Oldbury.

FEBRUARY 20.—**Chester.**—SUSPENSION BRIDGE.—Taking down and removal of the existing suspension bridge and the erection of a new wire-rope suspension bridge at Queen's Park, for the T.C. Mr. Charles Greenwood, City Engineer, Town Hall, Chester. Deposit £2 2s.

FEBRUARY 20.—**Hull.**—RAILS.—For 500 tons, or alternatively 1,000 tons, girder tramway rails, for the T.C. Mr. F. W. Bricknell, City Engineer, Guildhall, Hull.

FEBRUARY 20.—**Wallasey.**—RAILINGS AND GATES.—Supply of 3,900 lineal yds. unclimbable wrought-iron railings, 10 pairs double-hung gates with c.i. pillars, 6 hand-gates with c.i. pillars. Mr. W. H. Travers, Borough Engineer and Surveyor, Town Hall, Wallasey.

FEBRUARY 21.—**Argentine.**—PLANT.—Supply to the Argentine Ministry of Public Works of steam cranes, concrete mixers, tip wagons, machine tools, steam hammer, excavator, &c. Department of Overseas Trade, 35, Old Queen-street, S.W.

FEBRUARY 21.—**Manchester.**—LAUNDRY MACHINERY.—For supply of laundry machinery and equipment, for the B.G. Mr. Hargreaves, Superintendent of Works, Union Offices, All Saints', Manchester.

FEBRUARY 21 & 27.—**Manchester.**—IRONWORK.—c.i. water tanks, l.p. valves, cocks, pipe-work, &c. Mr. F. E. Hughes, Secretary, Electricity Department. Town Hall, Manchester.

FEBRUARY 21.—**Tottenham.**—ROLLER, &C.—Supply of one 10-ton steam roller with scarifier; three horse-drawn tar-spraying machines; three grit-spraying machines, to the U.D.C. Mr. R. C. Graves, Clerk, Town Hall, Tottenham, N.15.

FEBRUARY 22.—**Ashton-under-Lyne.**—PIPES, &C.—For circulating water pipes and valves and exhaust steam pipe for the Electricity Committee of the T.C. Borough Electrical Engineer, Wellington-road, Ashton-under-Lyne. Deposit £1 1s.

FEBRUARY 22.—**Doncaster.**—WIRING.—Installation of wiring for electric light in sixty houses on the Carr House-road site. Mr. R. E. Ford, Housing Surveyor, 3, Priory-place, Doncaster.

FEBRUARY 22.—**East Grinstead.**—ELECTRICAL PLANT.—Supply to the U.D.C. of electrical plant and mains, including street lamps and travelling crane. Mr. E. P. Whitley Hughes, Clerk, 102, London-road, East Grinstead.

FEBRUARY 22.—**Edinburgh.**—WROUGHT IRON FENCING.—For supply and erection of new wrought iron unclimbable fencing and gates, Comiston- and Balgreen-roads, for the T.C. City Road Surveyor, City Chambers, Edinburgh.

FEBRUARY 22.—**Farnworth.**—FIRE ENGINE.—For a motor fire engine (350 gallon capacity), with accessories. Mr. W. Tyldsley, Clerk, Town Hall, Farnworth.

FEBRUARY 23.—**Doncaster.**—WATER MAINS, &C.—Laying of about 1¼ miles of 9 in. cast-iron pipes and the construction of 250 lin. yards of 6 ft. 0 in. by 4 ft. 6 in. cast-iron culvert under three waterways, for the T.C. Mr. F. Oscar Kirby, Water Engineer, 2, Priory-place, Doncaster.

FEBRUARY 23.—**Kendal.**—ROAD PLANT.—For three road gritting machines, for the Westmorland C.C. Mr. C. E. Hines, County Surveyor, 14, Lowther-street, Kendal.

FEBRUARY 24.—**London.**—GIRDER BRIDGES.—Supply to the Bombay, Baroda, and Central India Railway Co. of girder bridges. Mr. S. G. S. Young, Secretary, The White Mansion, 91, Petty France, Westminster, S.W.1. Charge, £1.

FEBRUARY 24.—**Waterloo-with-Seaforth.**—ROAD ROLLER.—For supply of 10-ton road roller, for U.D.C. Mr. F. Spencer Yates, Surveyor, Town Hall, Waterloo, near Liverpool.

FEBRUARY 26.—**Belgium.**—PORT.—**Construction of fishing port at Ostend. Department of Overseas Trade, 35, Old Queen-street, S.W.**

FEBRUARY 27.—**Liverpool.**—ELECTRICAL INSTALLATION.—For overhead electrical installation at the Olive Mount Institutions, Wavertree, for the Liverpool B.G. Mr. G. W. Coster, Parish Offices, Liverpool.

FEBRUARY 27.—**Salford.**—HEATING APPARATUS.—For supply and erection of hot-water heating apparatus at the Electricity Offices, for the T.C. Borough Electrical Engineer, Frederick-road, Salford.

FEBRUARY 27.—**Willenhall.**—FENCING.—Supply and erection of about 1,300 yards of wrought iron railings, 5 ft. high, with gates complete, for the U.D.C. Mr. G. A. Waite, Surveyor, Town Hall, Willenhall.

FEBRUARY 28.—**London.**—MATERIALS.—Supply of mild steel plates and platelayers' steel beaters. Director-General, India Store Dept., Belvedere-road, Lambeth, S.E.

FEBRUARY 28.—**Woking.**—ROLLER.—Supply to the U.D.C. of a 12-ton road roller with scarifier attachment. Mr. G. J. Woolridge, Surveyor, Council Offices, Woking.

MARCH 1.—**Costa Rica.**—WHARF.—**Construction of reinforced concrete wharf for the Public Works Dept. of Overseas Trade, 35, Old Queen-street, S.W.**

MARCH 1.—**King's Langley.**—OVEN.—Installation of a new steam-pipe peel oven at the Leavesden Mental Hospital, King's Langley, for the Metropolitan Asylums Board. Office of Board, Embankment, E.C.4. Deposit £1.

MARCH 3.—**Johannesburg.**—HEATING AND DRYING PLANT.—**Supply and erection of combined power, heating and drying plant for abattoirs, for the Johannesburg T.C. Messrs. E. W. Carling & Co., agents, St. Dunstan's Buildings, St. Dunstan's Hill, London, E.C.3. Deposit £1 1s**

MARCH 6.—**South Africa.**—SHED.—**Supply of whole of materials required for steel-framed building for new engine shed at Vryhard East, Natal. High Commissioner for Union of South Africa, Trafalgar-square, W.C.**

MARCH 7.—**Bideford.**—GAS ENGINES.—For supply and erection of two suction gas engines driving two plunger pumps, for the U.D.C. Messrs. St. George-Moore and La Trobe-Bateman, 91, Victoria-street, London, S.W.1. Deposit £1.

MARCH 7.—**London.**—MATERIALS.—Supply of wheels, axles, and deck spans. Director-General, India Store Dept., Belvedere-road, Lambeth, S.E.

MARCH 8.—**Australia.**—TRANSFORMERS.—**Supply of 35 cabin transformers for power signalling to the Victorian Railway Commissioners. Dept. of Overseas Trade, 35, Old Queen-street, S.W.**

MARCH 15.—**Australia.**—TELEPHONE OPERATOR.—Supply of telephone protective apparatus to the Deputy Postmaster-General, Brisbane. Dept. of Overseas Trade, 35, Old Queen-street, S.W.

MARCH 16.—**Calcutta.**—WATERWORKS.—(I to VI) Supply and laying in a prepared trench of 30 miles of riveted steel pipe in the following sizes: 60 in., 54 in., 51 in., 48 in., 42 in., 36 in., and 33 in. Messrs. St. George-Moore & La Trobe-Bateman, 91, Victoria-street, Westminster, S.W.1. Deposit £5.

MARCH 20.—**Calcutta.**—TAR-SPRAYING MACHINE.—Supply to the Municipal Council of tar-spraying machine of 600 gall. capacity to be drawn by steam roller. Deputy Chairman, 5, Corporation-street, Calcutta.

MARCH 29.—**Australia.**—BORING MACHINE.—Supply of one double spindle boring machine, including tools, gears, and accessories, for Newport workshops, for the Victoria Railway Commissioners. Dept. of Overseas Trade, 35, Old Queen-street, S.W.

APRIL 10.—**Siam.**—RAILWAY ACCESSORIES.—Supply of accessories for goods rolling stock, to the Siam State Railways. Messrs C. P. Sandberg, 40, Grosvenor-gardens, London, S.W.1. Charge £2.

JUNE 19.—**Argentina.**—BRIDGES.—Supply and erection of suspension bridges for local authorities. Dept. of Overseas Trade, 35, Old Queen-street, S.W.

OCTOBER 31.—**New South Wales.**—BRIDGE.—Construction of the superstructure and substructure of a cantilever bridge across Sydney Harbour from Dawes Point to Milson's Point, for the Government of New South Wales. Agent-General for New South Wales, Australia House, Strand, London, W.C.2.

NO DATE.—**Mansfield.**—RAILWAY SIDINGS.—For levelling and laying 1,400 yards of railway sidings for Shirebrook Colliery, Ltd. Shirebrook Colliery, Ltd., near Mansfield.

ROAD, SANITARY, AND WATER WORKS.

FEBRUARY 18.—**Carlisle.**—TAR-SPRAYING.—For tar spraying approximately 600,000 sq. yds. of main roads, for the Cumberland C.C. Mr. W. H. Butler, County Surveyor, Carlisle.

FEBRUARY 18.—**Reigate.**—SEWERS.—Laying of about 1,600 yds. of 12 in., 9 in. and 6 in. sewers at Horley, for the R.D.C. Messrs. T. R. & V. Hooper, Surveyors, Market Hall Buildings, Redhill. Deposit £2 2s.

FEBRUARY 18.—**Spalding.**—WATER MAINS.—Construction of new water mains, &c., in the parishes of Cowbit and Weston, for the R.D.C. Mr. E. J. Silcock, engineer, 17, Victoria street, Westminster

FEBRUARY 20.—**Bridgend.**—WATER MAINS.—Providing and laying 490 yards of 3 in. cast-iron spigot and socket pipes in the county road near Llidiard-terrace, Bridgend, for the Mid-Glamorgan Water Board. Messrs. Thomas & Morgan & Partners, engineers, 23, Gelliwastad-road, Pontypridd. Deposit £1 1s.

FEBRUARY 20.—**Darlaston.**—SEWERS.—Construction of stoneware and cast-iron pipe sewers, and other works, for the U.D.C. Messrs. Dodd, Dodd & Watson, engineers, County Chambers, Corporation-street, Birmingham. Deposit £5.

FEBRUARY 20.—**Pinchbeck West.**—WATER SUPPLY.—Water supply to Royces Farm, Pinchbeck West, for the Holland County Agricultural Committee. Mr. E. J. H. Christie, County Land Agent, Sessions House, Boston.

FEBRUARY 20.—**Romford.**—SEWER.—Construction of about 4,280 ft. of 36 in. diameter concrete sewer and other works in Dagenham and Hornchurch, for the R.D.C. Mr. W. Fairley, Engineer, Parliament Mansions, S.W.

FEBRUARY 20.—**Teignmouth.**—ROADS.—Re-making the carriageway over the Teignmouth and Shaldon Bridge and the approacnes, for the Teignmouth and Shaldon Bridge Co. Mr. Ed. J. F. Tozer, Clerk, 2, Orchard-gardens, Teignmouth.

FEBRUARY 21.—**Barton-upon-Irwell.**—FILTER BED.—For the reconstruction of filter bed No. 4 at Clifton Sewage Disposal Works, for R.D.C. Mr. G. G. Forster, Engineer, Council Offices, Green-lane, Patricroft, Manchester.

FEBRUARY 21.—**Bethnal Green.**—ROADS.—Repairs to roadway at hospital, for the Board of Guardians. Mr. C. F. Jones, Clerk, Offices, Bishops-road, Bethnal Green, E. Deposit £2.

FEBRUARY 21.—**Nottingham.**—BOWLING GREEN, &c.—For levelling and laying a bowling green and two tennis courts, &c., for the T.C. Housing Department, Trinity square, Nottingham. Deposit £1 1s.

FEBRUARY 21.—**West Ashford.**—SANITARY.—For cleansing cesspools at the Workhouse, Westwell, for the R.D.C. Mr. J. M. Poncia, Clerk, 17, Bank-street, Ashford, Kent.

FEBRUARY 22.—**Southport.**—ROADS.—Making up Leamington-road, Ainsdale, for the T.C. Mr. A. E. Jackson, Borough Engineer, Town Hall, Southport. Deposit, £2 2s.

FEBRUARY 23.—**Kendal.**—STEAM ROLLING.—For hire of steam rollers to the Westmorland C.C. Mr. C. E. Hines, County Surveyor, 14, Lowther-street, Kendal.

FEBRUARY 23.—**Manchester.**—ROADS.—For paving and curbing at Bradford-road Works, for the Gas Department. Mr. Godfrey W. Kaye, Secretary, Gas Department, Town Hall, Manchester. Deposit, £1 1s.

FEBRUARY 23.—**Repton.**—SANITARY.—For scavenging work, for the R.D.C. Mr. F. W. Bullock, 213, Newton-road, Burton-on-Trent.

FEBRUARY 23.—**Salford.**—ROADS.—For flagging, asphalting, and tar macadamising streets in connection with the housing schemes of the Corporation. Borough Engineer, Town Hall, Salford.

FEBRUARY 25.—**Fifeshire.**—TAR-SPRAYING.—For tar-spraying and tar-grouting in Cupar District, for the C.C. Mr. W. Boyd, Surveyor's Office, 12, Crossgate, Cupar, Fife.

FEBRUARY 25.—**Royton.**—ROADS.—For work in connection with new arterial road, Royton to Manchester, within the district of Royton, for the U.D.C. Messrs. James Diggle & Son, engineers, 14, Brown-street, Manchester. Deposit £5.

✱FEBRUARY 27.—**Kensington, W.8.**—CLINKER REMOVAL.—Quotations invited for the removal of rough clinker refuse for six or twelve months, commencing on April 1, 1922, for the Royal Borough Council of Kensington, from their depot at Wood-lane, Shepherd's Bush, W. Mr. Wm. Chambers Leete, Town Clerk, Town Hall, Kensington, W.8., endorsed "Quotation for the Removal of Refuse."

FEBRUARY 27.—**London.**—SCAVENGING.—For scavenging, &c., the Thames embankments and bridges, for the L.C.C. Chief Engineer, Gloucester House, 19, Charing Cross-road, W.C.2. Deposit £3.

FEBRUARY 27.—**Prestatyn.**—SEWERAGE WORKS.—Construction of stoneware and cast-iron pipe sewers, &c., for the U.D.C. Mr. J. H. Blizard, engineer, 7, Victoria-street, Westminster, S.W.1. Deposit £5 5s.

FEBRUARY 27.—**Wallington.**—ROADS AND FOOTPATHS.—Completion of roads and formation of footpaths on Demesne Estate for Beddington and Wallington U.D.C. Mr. S. F. R. Carter, A.M.I.C.E., Council Offices, Wallington, Surrey. Deposit £1 1s.

FEBRUARY 28.—**Dumfries.**—MAINS.—Supplying and laying of about 2,135 lineal yds. of 4 in., 3 in., and 2 in. cast-iron water mains, and of about 717 lineal yds. of 9 in. and 6 in. fireclay pipe sewers, at the Kelloholm housing site, for the County Council. Mr. W. C. Easton, engineer, 149, West George-street, Glasgow. Deposit, £2 2s.

MARCH 1.—**Weymouth.**—ROADS.—Repair of the district roads under the jurisdiction of R.D.C., for one year. Mr. R. H. Luckham, Highway Surveyor, Broadwey.

MARCH 2.—**Failsworth.**—ROADS.—Construction of about half-a-mile of main arterial road, of 100 ft. in width, between Oldham-road and Moston Brook, for the U.D.C. Messrs. Charles J. Lomax & Son, engineers, 37, Cross-street, Manchester. Deposit, £3 3s.

MARCH 2.—**Greenwich.**—PAVING.—Paving of a portion of Kinveachy-gardens, Charlton, for the B.C. Borough Engineer, Town Hall, Greenwich-road, S.E.10.

✱MARCH 6.—**Nunhead.**—ROADWORK.—For kerbing, channelling, tarpaving footways, and tar macadam roadwork, &c., in Lanbury-road, for the Borough of Camberwell. Mr. Frederick J. Slater, Borough Engineer, Town Hall, Camberwell, S.E.5.

MARCH 7.—**London.**—CARRIAGEWAYS AND FOOTWAYS.—Execution of such works as may be required to be done during the term of one, two or three years from the first day of July next, in the repair and maintenance of all works of stone paving in the carriageways and footways of the City for the Corporation of London. City Engineer, Guildhall, E.C.2. Deposit £2 2s.

MARCH 7.—**London.**—SEWERS AND DRAINS.—Reparation, maintenance and reconstruction of the sewers and drains of the City for the Corporation of London. Public Health Department, City Engineer, Guildhall, E.C.2. Deposit £2 2s.

Competitions.

(*See Competition News, page* 252.)

Auction Sales, Tenders, etc.

FEBRUARY 21.—**Victoria, S.W.1.**—Messrs. Rogers, Chapman & Thomas will sell at Denbigh Mews, Victoria, S.W.1, builder's plant and effects. Auctioneers, 50, Belgrave-road, S.W.1.

✱FEBRUARY 22.—**London, S.W.**—Messrs. Yeryard & Yates will sell, without reserve, at 255, Clapham-road, excellent timber and building materials. Auctioneers, 365, Norwood-road, S.E.27.

✱FEBRUARY 28.—**Hammersmith, W.6.**—Messrs. Green & Son will submit to auction (unless previously disposed of) at the Estate Sale Room, 72, King-street, W.6, the property known as Rutland Wharf, with vacant possession on completion, 80 ft. river frontage. Auctioneers, 72, King-street, Hammersmith, W.6.

FEBRUARY 28.—**London, E.C.**—Messrs. Fuller, Horsey & Co. will sell by order of the Port of London Authority in the Merchants' Hall, Baltic Exchange, St. Mary Axe, Contractor's Plant, including cranes, concrete mixers, &c., &c. Auctioneers, 11, Billiter-square, E.C.3.

MARCH 1.—**London, E.C.**—Messrs. Fuller, Horsey, Sons & Cassell will sell, in the Merchant's Hall, Baltic Exchange, St. Mary Axe, London, by order of the Port of London Authority, contractor's plant and machinery used in the construction of the King George V. Dock. Auctioneers, 11, Billiter-square, E.C.3.

Public Appointments.

✱FEBRUARY 23.—**Islington.**—Clerk of works required by the Metropolitan Borough of Islington in connection with the erection of their new Municipal buildings of steel-framed construction with reinforced concrete floors. Mr. C. G. E. Fletcher, Town Clerk, Town Hall, Upper-street, N.1, endorsed "Clerk of Works."

✱NO DATE.—**Kensington.**—Assistant Inspector of house drainage required by the Royal Borough Council of Kensington. Town Clerk, Town Hall, Kensington, W.8.

Scarborough War Memorial.

It is proposed to erect an obelisk of Portland stone on Oliver's Mount, Scarborough, as a war memorial. The scheme, which includes the construction of steps and paths, is estimated to cost between £7,000 and £8,000.

Durham Surveyors' Association.

Mr. Albert E. Brooker, County Engineer and Surveyor, presided over a well-attended meeting of the newly-inaugurated County of Durham Surveyors' Association, held at Durham last week, and thanked the members for the honour they had paid him in appointing him as their first President.

Mr. Brooker delivered an address on "Classification of Roads," and referred to many difficult points which faced surveyors in the compilation of their numerous applications, estimates, returns, &c., to the Ministry. The following took part in the discussion:—Mr. W. Ayton (Chester-le-Street), Mr. G. Gregson (Durham), Mr. H. G. Kaines (Durham), Mr. J. P. Wakeford (Stockton), Mr. R. Clarkson (East Boldon), Mr. J. Harding (Hetton), Mr. J. W. Green (Durham), and T. Knox (Benfieldside).

The next meeting will be held at Durham on March 25, when Mr. J. W. Green, City Surveyor, Durham, will open a discussion on "Motor Haulage and Horse Haulage." Mr. J. P. Wakeford will discuss "Property Repairs Under Section 28 of the Housing, Town Planning, &c., Act, 1919." The meeting will be followed by a dinner and social evening.

Obituary.

Mr. Charles S. Roberts, aged sixty-six, painter and decorator, who died at his residence, "Dan's Castle," Tow Law, was prominently connected with the Master Painters' Federation, having been President of the Teeside Federation.

The death is announced of Mr. Robert Walton, of the firm of Messrs. Walton Bros., builders and contractors, of Crook, who died on February 6, at his residence, The Avenue, Durham.

The death is recorded, at the age of 90 years, of Mr. Thomas Sykes, retired builder, of Beverley.

PROPOSED NEW BUILDINGS & OTHER WORKS.*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.

ASHFORD.—The justices have passed plans of alterations to the "Crown and Anchor" public house, Willesborough.

BEDWORTH.—Plans of alterations at the "Cricketers Arms" have been approved by the justices.

BELFAST.—Plans passed: Store in Cromac-street, for S. Ross; additions to lecture hall in Ormeau-road, for the committee of Newtownbreda Presbyterian Church; offices and stores in Dover-street, for Kinkaid Bros.; additions to shop in High-street, for W. T. Sears & Co.; house in Hampton Park, for J. Patterson; additions to mill, for the York-street Flax Spinning Co.; additions to two houses in Baden Powell-street, for A. Taggart; house in Annadale-avenue, for J. W. Rea; alterations to premises in Victoria-street, for Foster Green & Co.; new premises in Mill-street, for J. Wreath, jun.; motor garage in Norwood-street, for Hynds & Co., Ltd.; alterations to shop in Castle-street, for W. Coates & Co.; house in Taunton-avenue, for S. Ewing & Sons; store in Eliza-street, for Samuel Ross.

BLACKPOOL.—Plans passed by T.C.: Additions to garage, Upper Wilton-parade, for the Imperial Garage Co.; four houses, Manor-road, for Mr. J. Birket; two houses, Dean-street, for Messrs. Morrison & Perry; house, Whitegate-drive, for Mr. R. Mason; three houses, Reads-avenue and Park-avenue, for Mr. J. Francis; washhouse, 21, Boothroyden, for Mr. E. Greenall; addition, 14 and 16, Foxhall-road, for Mr. W. S. Lines; three washhouses and coalplaces, Waterloo-road, for Mr. T. Makin; store-room, Milbourne-street, for Mr. T. Hargreaves; extensions to motor station, Marshall-street, for Mr. J. Shaw, Ltd.; garage, Leopold-grove, for Mr. J. H. Robinson; alterations, Foxhall-road and Chapel-street, for Mr. G. Morris; additions, Lytham-street and Town Hall-street, for Messrs. J. Riley & Son; conversion of premises, Cocker-street and Dickson-road, for Mr. E. M. Bradley; two greenhouses, Highfield-road, for Mr. J. Fitton; covered store, Bonny-street, for Messrs. S. & J. Wood; shop, Waterloo-road, for Mr. S. C. Coope; two shop fronts, Newton-drive, for Mr. J. Smith; addition, 109, Lytham-road, for Mr. J. Holt; outbuilding, Prince's-avenue, for Messrs. Ogden & Bradley; shop, West-street, for Mr. J. P. Bamber; covered passage, 19, Ripon-road, for Mr. J. Rowley; alterations to premises, Central-road, for Mr. J. Durkin; two houses, Warley-road, for Mr. F. Tomlinson; addition, 15, General-street, for Mr. R. Tomlinson; alterations, 4, Princess-street, for Mr. A. Waddicor; alterations to bakery, Back Charnley-road, for the Milco Bread Co.; addition, 21, Church-street, South Shore, for Mr. A. Jones; outbuilding, Convent, Layton, for the Rev. Mother Superior; revision of estate plan, off Bloomfield-road, for Messrs. S. & J. Wood; washhouse, 62, Whitegate-drive, for Messrs. J. Halstead & Sons; alterations, Talbot-road, for Mr. T. Taylor; additions and alterations, Princess Theatre, for Blackpool Entertainments, Ltd. — The following plans are referred to the Town's Improvement Committee for consideration: house and shop in Highfield-road, submitted by E. Lewis; two houses and shops in Highfield-road, submitted by the executors of J. Birtwistle; shop front in Talbot-road, submitted by L. Cookson; additions to 96, Dickson-road, submitted by H. Robinson.

BLACKBURN.—Plans passed by T.C.: House, Woodgate-road, by Mr. J. Cronshaw; store shed, Whalley New-road, by Mr. F. H. Peet; garage, Meadow-street and Pitt-street, by the Blackburn Parcel Express Co., Ltd.; additions to brewery, Larkhill-street, by the Blackburn Brewery Co., Ltd.; six houses, Buncer-lane, by Mr. H. Southworth.

BRADFORD.—The city engineer has to carry out repairs at the premises of Messrs. May & Hammel at a cost of £230.—A plan by Mr. A. R. Hobson for the alteration of premises in Diamond-street has been approved.

BRAITHWELL.—The Justices have approved plans for the rebuilding of the "Red Lion."

BRAMPTON.—The U.D.C. has passed plans for an extension to Town Foot Farm, Hayton, for Mr. W. Watson, and for two semi-detached houses on the Red Beck estate, for Mr. T. Armstrong, "Bridge House Inn," Gilsland.

BRIGHTON.—At the Brewster Sessions, Sir Oswald Stoll explained the delay in carrying out the scheme for a variety hall and cinema theatre in West-street, estimated to cost £500,000, and it was decided to extend the time for the performance of the obligation under the licences for another year.

COVENTRY.—Plans passed by T.C.: House, Jesmond-road, for Mr. A. J. Godfrey; bank, Foleshill-road, for the London Joint City and Midland Bank, Ltd.; schoolroom, St. Dunstan's School, Stoke Green, for Mr. F. Burton; two houses with shops, Lowther-street, for Kelley & Son; golf-house, Beechwood-avenue, for the Hearsall Golf Club; house, Belvedere-road, for Mr. E. Howe; house, Belvedere-road, for Mr. T. Norton; house, Broadway, for Mr. J. Twigg.

CUDWORTH.—Plan passed by U.D.C.: Motor garage for Mr. J. Newton.

DONCASTER.—The Plans Sub-Committee has considered a letter from Mr. J. B. Richardson, architect, on behalf of Messrs. Millards, Ltd., asking the Committee's provisional approval to a proposed development scheme for property adjoining Chancery-lane, including the demolition of certain houses, and the stopping up of Chancery-lane. The Committee commend that no objection be offered subject to an undertaking being given by the Company to the effect that alternative housing accommodation will be provided by them for the tenants displaced thereby. — The Sewage Committee has approved of plans by the Borough Surveyor with regard to the drainage on the Wheatley Hails Estate and decided to install a second pumping installation when necessary.

DUDLEY.—Sanction to plans for the rebuilding of the "Three Crowns Inn," High-street, and for extensive improvements to the "Old Bush Hotel" has been granted by the justices.

FALKIRK.—Announcement is made of a further addition to the already large number of iron foundries in the Falkirk district. Premises adjoining the Forth and Clyde Canal, on a site formerly used for a similar purpose, have been secured for carrying on of the business of general ironfounders and engineers by the Dundas Iron Company.

FILEY.—The U.D.C. has approved a draft scheme for a concert-hall and accessory buildings in the North-gardens. The proposals embrace a concert-hall, 60 ft. by 33 ft., and stage 20 ft. by 16 ft.

GLASGOW.—It was reported at a meeting of the Clyde Trust that the engineer had submitted a plan for the reconstruction of the old timber quayage at the west end of Broomielaw. The New Works Committee recommended that he be authorised to carry this out by the construction of a concrete quay wall, in continuation of the work now being done at Anderston Quay, at an estimated cost of £8,000. The recommendation was adopted.

HEMSWORTH.—Approval has been given to plans by Messrs. Brice, Butler & Lee, of Pontefract, for a licensed house at Fitzwilliam.

HUNSTANTON.—Plan passed by U.D.C.: Additions to shop, Royal Parade, for Mr. Morley.

LONDON (BERMONDSEY).—Plans passed by B.C.: Offices, &c., 151, Tower Bridge-road, Mr. H. Kent, for Messrs. J. Pickford & Co.; shed, 469, Southwark Park-road, for Mr. W. Cutmore.

LONDON (CAMBERWELL).—Drainage plans passed by B.C.: At 79 and 81, Peckham Rye, for Messrs. Champion & Son; at 37–43, Tilson-road, for Mr. Owen; at 16, Windsor-road, for Messrs. Hill & Son; at 116, Shenley-road, for Mr. Stacey; "Havelock Arms" public house, 38, Meeting House-lane, for Mr. Kirby; at 57, Talfourd-road, for Mr. Holsman; at 36, Shenley-road, for Mr. White; at 140, Sumner-road, for Mr. Dunwoody; at 84 and 86, Lausanne-road, for Messrs. Staples & Son.

LONDON (DEPTFORD).—Plans passed: Building, Warwick-street, for Mr. F. J. Tomkins, 74, Pagnell-street.

LONDON (FULHAM).—The Borough Engineer has been instructed to carry out improvement works at Bishop's Park, at an estimated cost of £2,445.

LONDON (HACKNEY).—Plans passed by B.C.: Sanitary improvements at pianoforte factory, corner of Reading-lane, for Mr. A. Humphries; alterations at bank premises, 76, Mare-street, for Mr. H. C. Horswill. Drainage plans passed: At 129, Victoria Park-road, for Messrs. G. Streeter & Son; at 142, Lea Bridge-road, for Messrs. R. Brown Bros.; at 96, Kingsland High-street, for Mr. E. Claydon; at 109, 111 and 113, Kingsland High-street, for Mr. H. Nelson; at 138 and 140, Tottenham-road, for Mr. G. H. Burghes; at 75, Ashenden-road, for Mr. A. G. Blake; and at 20, 22, 24 and 26, Caroline-street, for Messrs. Jenkinson, Brinsley & Jenkinson.

LONDON (KENSINGTON).—In consequence of representations made by the Society of Motor Manufacturers and Traders with respect to the inadequacy of the accommodation at present afforded by Olympia for the needs of the motor industry for their exhibitions, the directors of Olympia have decided to undertake an extension scheme. The additional floor space which will be provided by the new hall will amount to about 100,000 square feet, which, added to the existing floor space of Olympia, will give a total area of over 300,000 square feet.

LONDON (LEWISHAM).—Plans passed by B.C.:—Bakehouse, 134, Burnt Ash-road, for Mr. W. Dew; garage, 12, Tyson-road, for Messrs. Seymour & Mackenzie; 52 houses and 42 houses, Bellingham Estate, for the L.C.C.; nine houses, Beckenham-lane, for Messr T. H. Sawyer & Sons.

LONDON (POPLAR).—The L.C.C. has sanctioned the B.C. borrowing £33,735 for paving works.

MANCHESTER.—The Baths Committee of the Corporation has decided to accept tenders for the erection of a wash-house at Newton Heath. Work will begin as soon as possible.

MONTROSE.—The Harbour Trustees have had before them specifications prepared by Mr. J. Mannay Thompson, harbour engineer, Dundee, for construction of new dock gates and dredging of the dock, and it was agreed to issue these for tenders to a number of firms specified by the engineer.

NEWPORT (ISLE OF WIGHT).—Plan passed: Additions to "The Larches," Stapler's-road, for Mr. W. Blake.

NEW ROMNEY.—Plans passed by T.C.:—House at Littlestone, for Mr. D. Stevens, K.C.

NORWICH.—The justices have approved of the removal of the licence of the "Royal Exchange," Market Place, to premises about to be constructed by Messrs. Lacon & Co., Ltd., on land owned by them at the corner of Junction-road and Shorncliffe-road, in the hamlet of Hellesdon; also that the licence of the "Pheasant Cock," St. Miles', be removed to a house and premises about to be constructed by Messrs. Youngs, Crawshay & Youngs, Ltd., in Philadelphia-lane; and the licence of "The Beehive," 18, Palace Plain, be removed to a house and premises about to be constructed by Messrs. Steward & Patteson, Ltd., at 2, Leopold-road, and 46 and 48, Melrose-road.

OSSETT.—Plans passed by T.C.: Alterations to garage, Dewsbury-road, for Mr. F. Nicholls; building for heating operations, Moorcroft-street, for Messrs. Hepworth Bros.; two bungalows, Warneford-avenue, for Messrs. Hepworth & Moorhouse; repairs to property, Westfield-street, for the trustees of the late Mr. Joseph Burton.

PLYMOUTH.—The T.C. is applying for sanction to borrow £10,000 for the reconstruction of sewers in certain streets.—Plans passed: Mr. G. Bloom, alterations, 1, William-street, Morice Town; Princess Motor Co., Ltd., additions to garage workshop, Windsor-lane; Mr. J. B. James, garage, Richmond-walk; Mr. B. Leatherby, garage, Wilton-street; Mrs. E. Goad, new roof, 18, Melville-road, Ford; Mr. P. Sullivan, garage, rear of 22, Athenæum-street; South Devon and East Cornwall Hospital, additional story on board room block, S uth Devon and East Cornwall Hospital; Mr. J. Paynter, additions, 1 Hill Park-crescent; Messrs. Ham & Sons, lock-up garage, Kirkby Yard.

ST. ALBANS.—At the conclusion of the meeting of the National Assembly of the Church of England, a meeting took place to decide on a memorial to the late Dr. Jacob, Bishop of St. Albans, and it was decided that a personal memorial should be erected in the Cathedral at St. Albans, and that a church, which might be known as the "Jacob Memorial Church," should be built in London-over-the-Border in memory of his work there.

SHEFFIELD.—Plans passed: Two houses, Meadow Bank-avenue, for Mr. E. C. Hart; four houses, The Dale, for Mr. Frank Parken; house, Greenhill-road, for Mr. J. Laver.

SITTINGBOURNE.—The justices have passed plans for the rebuilding of the "Britannia" public house, Milton, and for alterations at the Crystal Palace, Blue Town, Sheerness.

SOUTH KIRKBY.—Plans for the erection of a licensed house have been approved on the application of Carter's Knottingham Brewery Co.

STIRLING.—The Board of Health have informed the Central District Committee of Stirling County Council, with reference to the limitation of the State subsidy scheme, that they are now prepared to allocate a further 26 houses to the Central District in addition to the 142 houses for which tenders have already been approved. It has been decided to allocate 16 of the additional houses to Cowie and the remaining 10 to Haggs.

STRETFORD.—Plans passed by U.D.C.: Store sheds, 375, Chester-road, for Mr. Walter Robertson; motor-house, 18, Lime-grove, for Mr. Frank Oldfield; store shed, 1,220, Chester-road, for Messrs. Longworth & Maunders; shed, 31, Walter-street, for Mr. Arthur Sanders; addition to workshop, 21, Cooke-street, for the Lancashire Rivet, Nut & Bolt Co.; garage, Cavendish-road, for Messrs. Boan & Priestley; cable bridge over Bridgewater Canal, for the Manchester Corporation Electricity Dept.; shop, storeroom, &c., Cornbrook-street, for Mr. and Mrs. Shaw; eight shops, Upper Chorlton-road, for Messrs. Rhodes & Dunseath.

SWINDON.—Plans approved by T.C.:—Messrs. Drew & Sons, garage, Wroughton-road; Mr. T. J. Bayliss, stable and cart shed, 2, Vilett-street.

TRING.—The U.D.C. has passed plans of a house in Station-road for Messrs. J. Honour & Son, and of a bungalow in Longfield-road for Mr. Potter.

WARRINGTON.—Plans passed by T.C.: Alterations to premises, 15, Sankey-street, for Messrs. David Hall & Co.; Army hut, Bold-street, for the Trustees, Warrington Branch, British Legion.

WARSOP.—An application to carry out alterations to the "Plough" Inn, Warsop, whereby the living accommodation would be improved, made by Mr. J. H. White, for the Worksop and Retford Brewery Co., has been granted by the justices.

WREXHAM.—The R.D.C. has decided to apply to the Ministry of Health for sanction to build thirty houses at Cefn.

FIRES.

BLAIRGOWRIE.—Considerable damage has been caused by fire to the Caledonian Railway Company's locomotive shed at Blairgowrie Station.

CHICHESTER.—An outbreak of fire occurred at the Olympia Picture House, in Northgate, which resulted in the building being completely gutted.

DUBLIN.—Messrs. Cahill & Company's extensive printing establishment on Ormond Quay, Dublin, has been destroyed by fire. The damage is estimated at £50,000.

EDINBURGH.—Damage to the extent of £1,000 has been caused by a fire which occurred at Ashley's Laundry, Ltd., St. Patrick-square.

ELLAND.—Considerable damage has been caused by fire at the Perseverance works of James Lumb & Sons, Ltd., engineers and steel founders.

GLASGOW.—A fire has occurred in the premises of the New Apothecary Company at the corner of Glassford-street and Wilson-street, Glasgow.

HALIFAX.—A serious fire has occurred at Union Mills, Pellow-lane, in the part occupied by Mr. J. Maddison.

HEYWOOD.—Damage estimated at about £6,000 was caused by fire last week at the garage of Messrs. Jesse Travis & Co., Lord-street.

LONDON (CITY).—A serious fire has occurred at the warehouse of Messrs. Allen Maxey & Co., paper merchants, in Upper Thames-street.

RHYL.—The extensive saw mills and timber yards of Messrs. Charles Jones & Sons, Ltd., Foryd Harbour, have been gutted by fire.

SHEFFIELD.—Damage estimated at £10,000 has been done by fire to buildings in Attercliffe-road, belonging to Messrs. Carter & Sons, manufacturing chemists.

TUNBRIDGE WELLS.—Damage estimated to exceed £1,000 has been caused by fire at Etherton Lawn, a country mansion at Stockton Green, Speldhurst, near Tunbridge Wells, the residence of the Misses Irving.

* **See also our List of Contracts, Competitions, etc**

PRICES CURRENT OF MATERIALS.*

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. Since our last issue several prices have been revised.—Ed.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge. £ s d.

Best Stocks 4 13 0

Per 1000, Delivered at London Goods Stations.

Fletton, at	£ s. d.		£ s. d.
King's Cross	3 5 0	Best Blue Pressed Staffs.	10 11 6
Do. grooved for plaster.....	3 7 0	Do. Bullnose ..	11 1 6
Do. Bullnose ..	4 0 0	Blue Wire Cuts	8 11 6

Best Stourbridge Fire bricks:—

2½ in. .. .	11 3 0	3 in.	13 2 0

GLAZED BRICKS—

Best White, Ivory, and Salt Glazed Stretchers ..	26 0 0	D'ble Str'tch'rs	34 10 0
		D'ble Headers	31 10 0
		One Side and two Ends ..	35 10 0
Headers.....	25 10 0	Two Sides and one End	36 10 0
Quoins, Bullnose and 4½in. Flats	32 10 0	Splays and Squints.....	34 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

	s.	d.		
Thames Ballast	14	0	per yard,	delivered 2 miles radius Paddington.
Pit Sand	17	0	„ „	
Thames Sand	19	0	„ „	
Best Washed Sand	19	0	„ „	
¾ in. Shingle for Ferro-Concrete	19	0	„ „	
½ in. „ „	20	0	„ „	

Per ton delivered in London area in full van loads.

	£ s. d.	£ s. d.
Best Portland Cement. British Standard Specification Test.....	3 10 6 ..	3 16 0

63/6 alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above 10 0

NOTE.—The sacks are charged at 2s. 3d. each and credited at 2s. each if returned in good condition within three months, carriage paid.

Best Ground Blue Lias Lime 2 8 0 at rly. depot.

Grey Stone Lime 61s. 0d. per ton delivered in City and Central districts.

Stourbridge Fireclay in s'cks 37s. 8d. per ton at rly. dpt.

STONE.

	s.	d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R.. per ft. cube.....	3	2½
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R.. per ft. cube	3	5½
Do. do. delivered on road wagons at Nine Elms Depot	3	6½
PORTLAND STONE— Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L.& S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4	11½
Do. do. delivered on road wagons at above stations, per ft. cube..	5	0½
White basebed, 3d. per ft. cube extra.		
NOTE.—½d. ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.		
YORK STONE, BLUE—*Robin Hood Quality.* Delivered at any Goods Station London.	s.	d.
6 in. sawn two sides landings to sizes (under 30 ft. super.) .....Per Ft. Super	7	4½
6 in. rubbed two sides, ditto ..... „	8	0½
3 in. sawn two sides slabs (random sizes) „	3	3
2 in. to 2½ in. sawn one side slabs (random sizes) ..... „	2	1
1½ in. to 2 in. ditto, ditto ..... „	1	9
HARD YORK— Delivered at any Goods Station London.		
Scappled random blocks .....Per Ft. Cube	8	0
6 in. sawn two sides landing to sizes (under 40ft. super.) .....Per Ft. Super	7	0
6 in. sawn two sides ditto ..... „	8	0
4 in. sawn two sides slabs (random sizes) „	3	11
3 in. ditto, ditto „	3	1
2 in. self-faced random flags ..Per Yard Super	10	6

WOOD.

GOOD BUILDING DEAL.

Inches	£ s.	
4 × 11	36 0	per standard
4 × 9	35 0	„
4 × 8	30 0	„
4 × 7	30 0	„
3 × 8	30 0	„
3 × 7	25 0	„
2½ × 7	25 0	„
3 × 6	25 0	„
3 × 11	34 0	„
2 × 11	32 0	„
3 × 9	30 0	„
2½ × 9	30 0	„
3 × 4½	20 10	„
3 × 4	20 10	„

PLANED BOARDS.

1 × 11	45 0	„
1 × 9	40 0	„

PLAIN EDGE FLOORING.

Inches		
¾	20/-	per square
¾	22/6	„
1	25/-	„
1¼	30/-	„
1½	37/6	„

TONGUED AND GROOVED FLOORING.

Inches		
1	25/-	per square
1¼	30/-	„
1½	37/6	„

WOOD (*Continued*).

MATCHINGS (BEST).

Inches		
¾	17/6	per square
¾	20/-	„
1	25/-	„

Inches	BATTENS.	s.	d.	
¾ × 2		3	0	per 100 ft.

SAWN LATHS.

Per bundle					0	4	0
Dry Wainscot Oak, per ft. super, as inch	0	2	6	to	0	3	0
¼ in. do. do.	0	1	10½	to	0	2	6
Dry Mahogany—Honduras, Tabasco, African, per ft. super, as inch	0	2	3	to	0	3	0
Cuba Mahogany	0	3	6	to	0	4	0
Teak (Rangoon, Moulmein or Java), per load.. ..	52	10	0	to	55	0	0
American Whitewood planks, per ft. cube ..	0	16	0	to	0	18	0
Best Scotch Glue, per cwt.	9	5	0	to	—		
Liquid Glue, per cwt.....	5	3	0	to	6	10	0

SLATES.

1st quality slates from Bangor or Portmadoc in truck load delivered London area. Per 1,000 of 1,200.

		£ s. d.
Best Blue Bangor Slates,	24 by 12	46 10 0
„ „ „	22 by 12	42 5 0
First quality „ „	22 by 11	39 0 0
„ „ „	20 by 12	37 2 6
Best Blue Portmadoc	20 by 10	31 15 0
„ „	18 by 10	26 5 0
First quality „	18 by 9	23 2 6
„ „	16 by 10	22 0 0
„ „	16 by 8	17 2 6

TILES.

	Per 1,000 f.o.r. London. £ s. d.
Best machine-made tiles from Broseley or Staffordshire district.....	7 0 0
Ditto hand-made ditto.....	7 15 0
Ornamental ditto	8 0 0
Hip and valley tiles (per dozen)	0 12 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION PER TON—	£ s. d.
R. S. Joists, cut and fitted	14 10 0
Plain Compound Girders	16 10 0
„ Stanchions	18 0 0
In Roof Work	22 0 0

WROUGHT IRON TUBES AND FITTINGS— (Discount off List for lot of not less than £15 net value delivered direct from Works. 5 per cent. less above gross discounts, carriage forward if sent from London Stocks.)

Tubes, (all sizes).	Fittings, Up to 2″.	Fittings, Over 2″.	Flanges, Up to 2″.	Flanges, Over 2″
Gas ....47½% ..	45 %	50 % ..	60 %	65 %
Water ..41½% ..	40 %	45 % ..	55 %	60 %
Steam ..35 % ..	35 %	40 % ..	50 %	55 %
Galv'd—				
Gas ..32½% ..	37½%	42½% ..	52½%	57½%
Water 25 % ..	32½%	37½% ..	47½%	52½%
Steam 17½% ..	27½%	32½% ..	42½%	47½%

L.C.C. COATED SOIL PIPES—London Prices ex works.

	Pipe. s. d.	Bends, stock angles. s. d	Branches, stock angles. s. d.
2 in. per yd. in 6fts plain	4 7 ..	3 7 ..	4 4
2½ in. „ „ ..	5 6 ..	3 11 ..	5 5
3 in. „ „ ..	6 6 ..	4 4 ..	6 6
3½ in. „ „ ..	7 2 ..	5 5 ..	7 6
4 in. „ „ ..	8 3 ..	6 1 ..	8 7

RAIN-WATER PIPES, &c.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6fts. plain	2 11 ..	2 3½ ..	3 1½
2½ in. „ „ ..	3 3 .	2 8½ ..	3 9
3 in. „ „ ..	3 10½ ..	3 4 ..	5 0
3½ in. „ „ ..	4 6½ ..	3 11½ ..	5 10
4 in. „ „ ..	5 2 ..	4 9½ ..	7 0

L.C.C. DRAIN PIPES.—9 ft. lengths. London Prices per yd.: 4 in., 6/3. .. 5 in., 7/10. .. 6 in., 9/6

IRON—	Per ton in London. £ s. d.		£ s. d.
Common Bars	15 0 0	to	16 0 0
Staffordshire Crown Bars good merchant quality	16 0 0	..	17 0 0
Staffordshire "Marked Bars"	19 10 0	..	20 10 0
Mild Steel Bars	13 10 0	..	14 10 0
Steel Bars. Ferro-Concrete quality, basis price ..	13 10 0	..	14 10 0
Hoop Iron, basis price ..	21 0 0	..	22 0 0
„ Galvanised ..	34 0 0	..	36 0 0
Soft Steel Sheets, Black—			
Ordinary sizes to 20 g.	17 0 0	..	18 0 0
„ „ „ 24 g.	18 0 0	..	19 0 0
„ „ „ 26 g.	19 10 0	..	21 10 0
Sheets Flat Best Soft Steel, C.R. & C.A. quality—			
Ordinary sizes, 6ft. by 2ft. to 3ft. to 20 g.	23 0 0	..	24 0 0
Ordinary sizes, 6ft. by 2ft. to 3ft. to 22 g. and 24 g.....	24 0 0	..	25 0 0
Ordinary sizes, 6ft. by 2ft. to 3ft. to 26 g...	26 0 0	..	28 0 0
Flat and Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. to 9ft. 20 g.	22 10 0	..	23 10 0
Ordinary sizes, 6ft. to 9ft. 22 g. and 24 g.	23 0 0	..	24 0 0
Ordinary sizes, 6ft. to 9ft. 26 g.	25 0 0	..	27 0 0

METALS (*Continued*).

	Per ton in London. £ s. d.		£ s. d.
Sheets Galvanised Flat, Best quality—			
Best Soft Steel Sheets, 6ft. by 2ft. to 3ft. to 20g. and thicker ..	27 0 0	..	28 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	28 0 0	..	29 0 0
Best Soft Steel Sheets, 26 g.	30 0 0	..	31 0 0
Cut Nails, 3in. to 6in. ..	25 0 0	..	26 0 0
(under 3in. usual trade extras.)			

METAL WINDOWS—Standard sizes suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 3s. per foot super.

LEAD, &c.

Delivered in London.

	£ s. d.		
LEAD—Sheet, English, 4 lb. and up	32 0 0	..	—
Pipe in coils	32 10 0	..	—
Soil Pipe	35 0 0	..	—
Compo pipe	36 0 0	..	—

NOTE—Country delivery, 30s. per ton extra; lots under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

Old lead, ex London area, at Mills ..... per ton	18	0	0 ..	—
Do., ex country, carriage forward..... per ton	19	0	0 ..	—

COPPER— Strong Sheet ....per lb.	0	2	3 ..	—
Thin „ .... „	0	2	4 ..	—
Copper nails .... „	0	2	3 ..	—
Copper wire .... „	0	2	4 ..	—
TIN—English Ingots „	0	1	9 ..	—
SOLDER—Plumbers' „	0	0	10 ..	—
Tinmen's..... „	0	1	0 ..	—
Blowpipe ..... „	0	1	3 ..	—

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

	Per Ft.		Per Ft.
15 oz. fourths	4½d.	32 oz. fourths	9½d.
„ thirds	5½d.	„ thirds	11d.
21 „ fourths	6½d.	Obscured Sheet, 15 oz.	7d.
„ thirds	6½d.	21 „	9d.
26 „ fourths	7½d.	Fluted and Enamelled 15 „	11d
„ thirds	8½d.	Fluted and Enamelled 21 „	1/2

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES. Per Ft.

¼ Rolled plate	4½d.
⅛ Rough rolled	6d.
¼ Rough rolled	6½d.
Figured Rolled, Oxford Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish white	7d.
Ditto, tinted	9½d.
Rolled Sheet	6d.
White Rolled Cathedral.....	5½d.
Tinted do.	7½d.

Cast Plate is same price as rough rolled.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil	in pipes..... per gallon	0 3 10
„ „ „	in barrels .... „	0 3 11
„ „ „	in drums .... „	0 4 0
Boiled „ „	in barrels .... „	0 4 3
„ „	in drums .... „	0 4 5
Turpentine in	barrels ..... „	0 6 5
„	in drums (10 gall.) .. „	0 6 8
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		55 10 0
GENUINE WHITE LEAD PAINT— "Father Thames," "Nine Elms," "Park," "Supremus" and other best brands (in 14 lb. tins) not less than 5 cwt. lots .....per ton delivered		76 15 0
Red Lead, Dry (packages extra) ..	per ton	38 0 0
Best Linseed Oil Putty	per cwt.	0 17 0
Filocel.....	per cwt.	0 15 6
Size. X D Quality.....	/kn.	0 4 6

VARNISHES, &c.

		Per gallon. £ s. d.
Oak Varnish.....Outside		0 15 0
Fine ditto	ditto	0 17 2
Fine Copal	ditto	1 1 6
Pale Copal	ditto	1 2 6
Pale Copal Carriage	ditto	1 4 0
Best ditto	ditto	1 14 6
Floor Varnish.....	Inside	0 19 0
Fine Pale Paper	ditto	0 18 0
Fine Copal Cabinet	ditto	1 2 6
Fine Copal flatting	ditto	1 0 6
Hard drying Oak	ditto	0 18 0
Fine Hard drying Oak	ditto	0 19 0
Fine Copal Varnish	ditto	1 0 6
Pale ditto	ditto	1 2 6
Best ditto	ditto	1 14 6
Best Japan Gold Size.....		0 12 6
Best Black Japan		0 18 0
Oak and Mahogany Stain (water)		0 17 6
Brunswick Black		0 11 0
Berlin Black.....		0 16 6
Knotting (patent)		1 16 0
French and Brush Polish		1 8 0
Liquid Dryers in Terebine		0 13 6
Cuirass Black Enamel		0 7 0

* The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

CURRENT PRICES FOR BUILDING WORK IN LONDON.*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	15	6
Add if in clay	" "	1	9
Add for every additional depth of 6 ft.	" "	1	3
Planking and strutting to trenches	per foot super	0	7
Do. to sides of excavation, including shoring	" "	1	2

CONCRETOR.

		s.	d.
Portland cement concrete in foundation 1 to 6 ..	per yard cube	43	0
Add if in underpinning in short lengths	" "	9	6
Add if in floors 6 in. thick	" "	3	10
Add if in beams	" "	4	9
Add if aggregate 1 : 2: 4	" "	12	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	4	0

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	39	15	0
Add if in stocks	"	8	10	0
Add if in Staffordshire blues	"	25	10	0
Add if in Portland cement and sand	"	3	10	0

FACINGS.

		s.	d.
Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1¼

POINTING.

		s.	d.
Neat flat strucks or weathered joint.....	" "	0	0	3

ARCHES.

		s.	d.
Extra only to the price of ordinary brickwork :—			
Fair external in half brick rings	" "	0	0	11½
Axed in stocks	" "	0	1	11
Rubbed and gauged jointed in putty camber or segmental	" "	0	6	8

SUNDRIES.

		s.	d.
Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1	5
Setting ordinary register grates and stoves	each	1	1	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	5	5	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard sup.	7	6
Three-quarter-inch vertical damp course	" "	11	8
¾ inch on flats in two thicknesses.....	" "	8	6
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	4

MASON.

		s.	d.
York stone templates fixed	per foot cube	16	3
York stone sills fixed	" "	28	6
Bath stone and all labour fixed	" "	15	0
Portland stone fixed	" "	23	0

SLATER.

		s.	d.
Welsh 16 in. × 8 in. 3 in. lap, including nails....	per square	98	0
Do. 20 in. × 10 in. Do. Do.	"	115	0
Do. 24 in. × 12 in. Do. Do.	"	117	6

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates .....per foot cube		6	9
Do. joists	" "	7	9
Do. roofs, floors and partitions	" "	7	9
Do. trusses	" "	10	0

		¾"	1"	1¼"	2"
Deal rough close boarding	per sq.	4/-	48/-	56/-	85/-

		s.	d.
Flat centering for concrete floor, including struts or hangers .. "		63	0
Do. to beams .....per ft. sup.....		1	6
Centres for arches ..... "		2	0
Gutter boards and bearers ..... "		1	6

FLOORING.		¾"	1"	1¼"	1½"
Deal-edges shot	per sq.		49/-	58/-	67/-
Do. tongued and grooved	"		54/-	65/-	72/-
Do. matchings	"	45/-	55/-		
Moulded skirting, including backings and grounds .....per ft. sup.		1/8	2/1	2/3	2/9

SASHES AND FRAMES.		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	11
Two Do. Do. Do.	" "	2	4½
Add for fitting and fixing	" "	0	6
Deal-cased frames with 1 in. inner and outer linings, 1¼ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares double hung, double hung with pulleys, lines and weights; average size.....	" "	4	9

DOORS.		1½"	1¾"	2"
Two-panel square framed .....per ft. sup.		2/6	2/9	2/11
Four-panel Do.	"	2/10	3/2	3/5
Two-panel moulded both sides	"	3/2	3/5	3/8
Four-panel Do. Do.	"	3/6	3/9	4/-

CARPENTER AND JOINER—continued.

FRAMES.		s.	d.
Deal wrot moulded and rebated	per foot cube	15	6

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	1/11	2/-	2/3
Deal shelves and bearers	"	1/8	1/10	2/1
Add if cross tongued	"	2d.	2d.	2d.

STAIRCASES.	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	2/3	2/6	2/11	—	—
Deal strings wrot on both sides and framed	1/9	2/1	2/3	2/9	—

		s.	d.
Housings for steps and risers	each	0	11½
Deal balusters, 1 in. × 1¼ in.	per ft. run.	0	9
Mahogany handrail; average 3 in. × 3 in.	" "	6	0
Add if ramped	" "	11	10
Add if wreathed	" "	23	9

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/4½
Sash fasteners .....11½d.		Mortice locks	5/3
Casement fasteners	1/5	Patent spring hinges and letting in to floor and making good	19/-
Casement stays.....	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	20	0
Plain compound girders	"	23	0
Do. stanchions	"	26	0
In roof work	"	31	0

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints ..	ft. run	1/11	2/4½	3/7	4/-
Ogee Do. Do. ..	"	2/4½	3/1	3/10	4/9
Rain-water pipes with ears	"	2/9	3/7		
Extra for shoes and bends	each	4/4	5/11		
Do. stopped ends	"	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt	56	0
Do. Do. in flats	"	52	0
Extra labour and solder in coated cesspools	each	7	4
Welt joint	per ft. run.	0	6
Soldered seam	" "	1	10
Copper nailing	" "	0	7

		½"	¾"	1"	1½"	2"	4"
Drawn lead waste	per ft. run	10d	1/6	1/9	3/1	3/10	
Do. service	"	1/5	1/11	2/3	3/6		
Do. soil	"						6/2
Bends in lead pipe	each					3/3	8/2
Soldered stop ends	"	1/2	1/8	2/1	2/ 0	3/6	
Red lead joints	"	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	"	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws	"				14/7	19/6	
Bib cocks and joints ..	"	6/4	9/7	15/4	41/-		
Stop cocks and joints	"	15/4	17/2	25/8	64/-		

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	3	2
Do. Do. Sirapite	" "	3	7
Do. Do. Keen's	" "	4	9
Add sawn lathing	" "	1	9
Add metal lathing	" "	3	0
Portland cement screed	" "	2	9
Do. plain face	" "	4	6
Mouldings in plaster	per 1 girth	0	3
One-and-a-half granolithic pavings	per yard sup.	6	7

GLAZIER.

		s.	d.
21 oz. sheet plain	per foot sup.	1	1
26 oz. Do.	" "	1	4
Obscured sheet	" "	1	8
⅛ in. rolled plate	" "	1	0
¼ in. rough rolled or cast plate	" "	1	1
¼ in. wired cast plate	" "	1	7

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	1	3
Knotting and priming	" "		8
Plain painting 1 coat	" "	1	0
Do. 2 coats	" "	1	9
Do. 3 coats	" "	2	6
Do. 4 coats	" "	3	3
Graining	" "	2	8
Varnishing twice	" "	2	0
Sizing	" "	0	4
Flatting	" "	0	8
Enamel	" "	1	6
Wax polishing	per foot sup.	0	10½
French polishing	" "	1	3
Preparing for and hanging paper	per piece	2/- to 4/-	

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

*Denotes *accepted*. † Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modifications*.

BRIDLINGTON.—For additions to Hilderthorpe Laundry, for Mrs. J. S. Hobson. Mr. C. F. Johnson, architect and surveyor, St. John's-avenue, Bridlington :—

Bricklayer, &c.—
R. Hardy, Bridlington.....
Joiner, &c.—
W. & F. Asher, Bridlington.. } £636 0 6

BRIDLINGTON.—For erection of house, Grange-Farm, Bempton, for Mr. T. Crompton. Mr. C. F. Johnson, architect and surveyor, St. John's-avenue, Bridlington :—

F. W. Martindale, Bridlington	£1,425 0 0
T. Davidson, Nafferton.....	1,403 13 6
Sawdon Bros., Filey.....	1,295 15 0
J. H. Walkington, Bridlington	1,289 0 0
H. E. Turner & Son, York....	1,260 0 0
Abbott & Sellers, Bridlington..	1,160 0 0
*B. Fell & Sons, Filey	1,124 0 0

CANNOCK.—Erection of transformer station in Queen-street, for the U.D.C. :—

*F. Pickering, Wednesford..... £1,650

CANNOCK.—For construction of road to Queen-street, for the U.D.C. :—

*W. Sharpe & Son, Barton-under-Needwood £295 1 3

CANNOCK.—For wrought-iron fencing in Queen-street, for the U.D.C. :—

*D. W. Clark & Son, Cannock..... £110 10

CHESTERFIELD.—Erection of shelter at Whittington Moor tram terminus, for the T.C. :—

*Walter McFarlane & Co..... £158

COUPAR-ANGUS.—For erection of new workshops, Union-street, for Mr. James Clark. Mr. J. A. R. Macdonald, architect, 16, Newton-street, Blairgowrie : quantities by architect :—

*J. & D. Bruce (*Mason*), Coupar-Angus.
*Ross & Wallace (*Joiner*), Coupar-Angus.
*Geo. S. Mann (*Slater*), Coupar-Angus.
*James Clark (*Plumber*), Coupar-Angus.

DARTFORD.—For construction of precipitation and storage tanks, sewer, buildings, and other works at Long Reach, for the West Kent Main Sewerage Board. Mr. Arthur B. Coomber, Secretary, Park House, Bromley :—

Thomas Shillitoe	£308,321 0 0
W. Alban Richards & Co., Ltd.	210,954 0 0
Kirk & Randall, Ltd.....	175,735 4 11
Walter Jones & Sons.....	165,626 16 1
A. E. Farr.....	208,177 0 0
¶Edwards Construction Co., Ltd.	155,955 15 0
Edwards & Co.....	219,300 19 10
Davidson & Sykes, Ltd.....	184,218 6 9
¶James Byrom, Ltd.....	177,250 10 10
W. F. Blay, Ltd.....	198,600 0 0
¶Baldry, Yerburgh & Hutchinson, Ltd.	180,660 0 0
*¶Balfour, Beatty & Co., Ltd.	157,181 4 6

¶ Attached to each of these tenders is an additional schedule of charges for exceptional pumping.

HERTFORD.—For reflooring the scarlet fever block at the Isolation Hospital, for the Hertford and Ware Joint Hospital Board. Mr. Paul Willoughby, architect, 5, Tavistock-square, W.C.1 :—

E. R. Kemp, Hertford.....	£260 0
G. T. Crook, Ware.....	199 12
*Bokford, Vale & Wightman, Hertford	185 0

HEXHAM.—For laying about 3,200 lin. yds. of sewer with sanitary pipes in sizes varying from 6 in. to 9 in., and construction of sedimentation tanks and filters, at Acomb, for the R.D.C. Mr. A. S. Dinning, engineer, 21, Ellison-place, Newcastle-upon-Tyne :—

M. D. Young, Hexham.....	£11,950 15 0
J. Davison, Corbridge.....	11,850 0 0
Provincial Construction Co., Ltd., Sunderland	8,090 15 6
T. A. Davies & Co., South Shields	8,009 11 5
G. Percy Trentham & Co., Edinburgh	7,754 8 1
Unit Construction Co., Ltd., London	7,450 0 0
P. D. Hayes & Sons, Stockport	7,265 10 0
J. W. White, Sunderland....	7,175 0 0
C. M. Skinner & Hill, Newcastle-on-Tyne	6,812 18 2
Dyson, Lindsley & Co., Ltd., Chester-le-Street	6,739 8 9
H. E. Buckley, Bradford....	6,690 0 0
J. Lant, Newcastle-on-Tyne..	6,641 14 9
C. V. Buchan & Co., Ltd., Sussex	6,612 0 0
G. Mackay & Sons, Edinburgh	6,594 11 3
R. Fisher, North Shields....	6,514 11 4
H. C. Pullar & Co., Manchester	6,498 4 6
Purdie, Lumsden & James, Ltd., Newcastle-on-Tyne	6,360 15 0
G. E. Simpson & Co., Newcastle-on-Tyne	6,227 6 9
J. W. Dorin, Hexham.....	6,034 0 0
Wm. Wilson & Co., Ltd., Newcastle-on-Tyne	5,992 6 3
D. G. Somerville & Co., Ltd., London	£5,975 0 0
Wm. Kennedy & Sons, Jarrow-on-Tyne	5,949 5 9
W. G. Armstrong & Co., Blaydon-on-Tyne	5,900 0 0
*North of Scotland Transport Co., Ltd., Montrose....	5,689 19 3

LONDON.—Supply of 1 mile "B" troughs and covers, for the Stepney B.C. :—

Siemens Bros. & Co., Ltd., Woolwich	£239 14 2
W. T. Henley's Telegraph Works Co., Ltd., London.....	239 11 11
*Sutton & Co., Ashby-de-la-Zouch	233 12 2

LONDON.—Supply of 1 mile 3-in. earthenware pipes, to the Stepney B.C. :—

Doulton & Co., Ltd., Lambeth..	£305 13 3
Albion Clay Co., Ltd., London..	305 13 3
*Sutton & Co., Ashby-de-la-Zouch	305 13 3

LONDON.—For supply of 1 ton of plumbers' solder, 5 cwts. tinmen's solder, and 2 cwts. blowpipe solder, for the Stepney B.C. :—

Newsome & Co., Ltd., London..	£117 5 0
G. Pizey & Son, Dalston.....	109 1 0
*G. W. Neale, London.....	105 19 0

LONDON.—For laying "Monalastic" surface in Branstone-street, for the Kensington B.C. :—

*Highways Construction Co...7s. per yard super, with free maintenance for five years.

LONDON.—For the extension of the electricity generating station, for the Fulham B.C. :—

*W. Moss & Sons..... £5,565

LONDON.—For rebuilding of Blundell-street School, Islington, for the L.C.C. :—

Rowley Bros., Wood Green.....	£67,759
Brand, Pettitt & Co., Tottenham..	65,949
J. Smith & Sons, Ltd., W.....	64,500
W. Lawrence & Son, Ltd., Finsbury	63,500
F. & T. Thorne, Isle of Dogs.....	61,800
W. F. Blay, Ltd., E.C.....	61,662
J. & W. Stewart, W.....	61,441
Holliday & Greenwood, Ltd., Battersea	60,660
A. Roberts & Co., Ltd., Kensington	59,500
Allen, Fairhead & Son, Enfield	58,695
G. Godson & Sons, Ltd., Kilburn....	56,420
J. Carmichael (Contractors), Ltd., Wandsworth	55,896
Bovis, Ltd., W.....	55,397
Prestige & Co., Ltd., S.W.....	54,825
L. H. & R. Roberts, Clapton.....	54,637
*C. P. Roberts & Co., Ltd., Dalston..	49,300

LONDON.—Provision and installation of ventilating plant at Blackwall Tunnell, for the L.C.C. :—

Thermotank Co., Glasgow.....	£1,480
Sturtevant Engineering Co., Ltd., E.C.4	1,435
Richard Crittall & Co., Ltd., W.1....	1,082
*Davidson & Co., Ltd., E.C.2.....	1,016

LONDON.—The Main Drainage Committee of the L.C.C. reports having received the following tenders :—

Northern outfall: Painting of sludge tanks—

F. & T. Thorne, Isle of Dogs....	£470 3 3
British Scaling & Painting Co., Ltd., Poplar	595 0 0
W. Harris, North Woolwich....	783 8 0
Vigor & Co. (Poplar), Ltd., Poplar	826 13 1
W. J. Clemens, Stratford.....	836 19 9
Stokes & Son, East Ham.....	838 6 1
G. Parker & Sons, Ltd., Peckham	866 13 8
J. S. Fenn, Woolwich.....	896 0 0
Triggs & Co., Clapham.....	904 0 0
A. H. Inns, Bishopsgate.....	987 11 3
British Renovating Co., Ltd., Canning Town	1,004 12 4½
A. T. Peyton, Ltd., Lewisham..	1,169 18 0
Arthur Webb, Stratford	1,277 0 0
W. Lawrence & Son, Ltd., Finsbury-square	1,343 1 8
J. Marsland & Sons, Ltd., South Molton-street, W.	1,602 16 0
J. Garrett & Son, Balham-hill..	1,969 13 10
J. Westwood & Co., Ltd., Millwall	1,988 13 0
Griggs & Son, Victoria-street, S.W.....	2,638 0 0

Northern outfall: Painting, &c., to Cottages—

British Scaling & Painting Co., Ltd., Poplar	£550 0 0
J. S. Fenn, Woolwich.....	679 19 3
W. Harris, North Woolwich....	692 4 2
W. J. Clemens, Stratford.....	702 19 3
Vigor & Co. (Poplar), Ltd., Poplar	859 7 8
W. Lawrence & Son, Ltd., Finsbury-square, E.C.	883 4 4
Triggs & Co., Clapham.....	906 13 7
A. T. Peyton, Ltd., Lewisham..	971 4 6
Stokes & Son, East Ham.....	988 14 5
A. H. Inns, Bishopsgate.....	989 19 2
G. Parker & Sons, Ltd., Peckham	994 10 2
Griggs & Son, Victoria-street, S.W.....	996 17 8
British Renovating Co., Ltd., Canning Town	1,017 6 3
F. & T. Thorne, Isle of Dogs....	1,036 13 1
Arthur Webb, Stratford	1,095 0 0
J. Marsland & Sons, Ltd., South Molton-street.....	1,133 18 9
G. E. Page, Forest Gate.....	1,236 4 1
J. Westwood & Co., Ltd., Millwall	1,245 15 4
J. Garrett & Son, Balham-hill..	2,135 7 2

LONDON.—Supplying about 600,000 3 in. by 9 in. by 4 in. deep creosoted deal wood blocks to Southampton-street, for the Camberwell B.C. (rate per thousand) :—

George Wimpey & Co., Ltd., Hammersmith	£16 17 6
Gabriel Wade & English, Ltd., Lambeth	16 15 0
William Griffiths & Co., Ltd., E.C.2	16 14 6
John B. Lee & Sons, Ltd., E.C...	16 13 9
Burt, Boulton & Haywood, Ltd., E.C.	16 10 0
Bowerman & Sons, Ltd., Bridgwater	16 5 0
The Acme Flooring & Paving Co. (1904), Ltd., E.9.....	16 2 6
P. & W. Anderson, Ltd., W.1....	15 10 0
Sir William Burnett & Co., Ltd., Millwall	15 7 6
*Improved Wood Pavement Co., Ltd., E.C.4	15 5 0
A. S. L. Mackintosh & Partners, E.C.3	14 13 8

LONDON.—Providing and laying 3 in. by 9 in. by 4 in. creosoted deal wood blocks on existing foundations in Southampton-street, for the Camberwell B.C. :—

Henry Woodham & Son, Ltd., Catford	£14,903 6 8
P. & W. Anderson, Ltd., W.1..	12,070 0 0
G. J. Anderson, E.14.....	11,560 0 0
John Mowlem & Co., Ltd., S.W.1.....	10,993 6 8
George Wimpey & Co., Ltd., Hammersmith	10,880 0 0
William Griffiths & Co., Ltd., E.C.2	10,823 6 8
Acme Flooring & Paving Co. (1904), Ltd., E.9.....	10,710 0 0
*Improved Wood Pavement Co., Ltd., E.C.4	10,030 0 0

MIDDLETON.—For sewering of Hartley-street, for the T.C. Mr. Percy Harrison, Borough Engineer and Surveyor, Town Hall, Middleton :—

C. Collins & Co., Radcliffe.....	£600 0 0
A. Graham & Sons, Huddersfield	408 15 0
Borough Surveyor (estimate)....	362 5 0
R. Taylor, Middleton.....	340 0 0
R. Partington & Son, Middleton	337 0 0
W. Mulcaster, Haslington.....	286 10 0
H. C. Pullar & Co., Manchester..	284 10 0
J. E. Turner, Heywood.....	280 0 0
J. V. Thornley & Sons, Bolton..	259 7 0
John Moore, Rochdale.....	256 15 11
J. J. Middleton & Co. (Shaw), Ltd.	249 0 0
*T. Battersby, Middleton.....	248 13 2
Chandler Bros., Manchester....	238 2 0

MYTHOLMROYD.—For conversion of Royd House into banking premises, for the Bank of Liverpool & Martins, Ltd. Messrs. Walsh and Maddock, architects and surveyors, 10, Harrison-road, Halifax :—

Mason and bricklayer—
*Thomas Pickles, Halifax.
Carpenter and joiner—
*E. Alderson & Co., Halifax.
Plumber and glazier—
*R. P. Stafford, Halifax.
Plasterer and slater—
*Ramsden Collins & Sons, Halifax.
Electric Lighting—
*Gath Electrical Co., Halifax.

NEWCASTLE-ON-TYNE.—For the erection of 100 houses on the Walker Estate, for the T.C. :—

*H. Kelly, Ltd..... £62,600

NEWTON-IN-MAKERFIELD.—For erection of (*a*) 16 type "A" houses (in brick), at South Mesnes, and (*b*) house at the Isolation Hospital, Earlstown, for the U.D.C. Mr. James Elston, architect and surveyor, Market Chambers, Earlstown, Lancs :—

(*a*)	J. Hall & Co. (Comas St.), Liverpool	£16,000
	A. Bywater & Sons, Wigan.....	12,480
	J. J. Blackburn, Patricroft.....	11,324
	J. J. Bardsley, Manchester.....	10,400
	John Watson, Ashton-in-Makerfield	10,792
	E. & S. Street, Bolton.....	10,556
	L. Fairclough, Adlington.....	10,300
	Gorse Hall Constr. Co., Chorley....	9,940
	Building Guild Comm., Wigan....	9,838
	Clough & Gaskell, Wigan.....	9,808
	Daniel Cooper, Warrington.....	9,800
	Kearsley & Gee, Ashton-in-Makerfield	9,598
	J. B. Milner, Manchester.....	9,560
	J. Dolan & Sons, Warrington.....	9,280
	*G. Holmes & Co., Warrington....	8,240
(*b*)	G. Finning, Earlstown	1,075
	J. H. Bardsley, Manchester.....	1,025
	Daniel Cooper, Warrington.....	895
	John Watson, Aston.....	885
	Building Guild Comm., Wigan....	881
	Gorse Hall Constr. Co., Chorley....	837
	G. Holmes & Co., Warrington.....	700

NORTHFLEET.—For erection of a lavatory at the Council Offices, High-street, for the U.D.C. Mr. J. A. Mitchell, District Surveyor, High-street, Northfleet :—

J. Clements, Northfleet.....	£693 11
*J. B. Lingham, Northfleet.....	687 0

ORSETT.—For erection of (*a*) 30 houses at Stanford-le-Hope; and (*b*) 24 houses at West Thurrock, for the R.D.C. :—

*F. C. Stark (*a*).....	£16,800
(*b*).....	13,163

(*Amended tenders.*)

READING.—For erection of De Bohun-road bridge, for the T.C. :—

*Holloway Bros., London..... £35,490

READING.—For laying of sewer at Whitley Wood, for the T.C. :—

*Collier & Cattey..... £6,399 15 4

SHEFFIELD.—For 50 houses on Stubbin Estate for the T.C. :—

*W. Malthouse—34 houses..... £17,248
*S. Higton & Sons—16 houses..... 8,446

SHEFFIELD.—For external painting of Corn Exchange, for the T.C. :—

*T. Wilkinson & Son..... £151

SHEFFIELD.—Supply of 50,000 engineering bricks, to the T.C. :—

*Accrington Brick & Tile Co..... £450

SMETHWICK.—The T.C. has rejected the recommendation to accept the tender of Muirhead, Macdonald Wilson & Co., Ltd., for the erection of 16 type "A" houses at a price of £568 8s. 4d. each, and 12 type "B" houses at a price of £635 17s. 9d. each, and decided to accept the tender of Building Guild, Ltd., Manchester, whose prices are £1 11s. 8d. more for type "A" houses and £1 2s. 3d. more for type "B" houses. The tenders are subject to the approval of the Ministry of Health.

SOWERBY BRIDGE.—For alterations and extensions to premises, for the Bank of Liverpool & Martins, Ltd. Messrs. Walsh & Maddock, architects and surveyors, 10, Harrison-road, Halifax :—

Mason and bricklayer—
*Fred Stockton, Sowerby Bridge.

Carpenter and joiner—
*Briggs & Chadwick, Sowerby Bridge.

Plasterer and slater—
*Ramsden Collins & Sons, Halifax.

Plumber and glazier—
*R. P. Stafford, Halifax.

STRETFORD.—For exterior painting at Longford Hall, for the U.D.C. :—

*D. Gosling & Co., Manchester..... £102 10

SWINDON.—For pumping plant at Rodbourne Sewerage Works, for the T.C. :—

*Pulsometer Engineering Co., Reading £4,175

STOKENCHURCH, BUCKS.—For erection of 12 houses, class "B," for the Wycombe R.D.C. Mr. C. H. Wright, architect, 5, Crendon-street, High Wycombe :—

	(a)	(b)
C. A. White, Bedford	£8,430	£8,310
H. Lacey & Sons, Luton	8,170	7,990
Bartlett Bros., Witney	7,980	7,572
C. Jefferson & Co., High Wycombe	7,860	7,860
W. J. Cumberland, North Marston	7,717	——
C. H. Gibson & Sons, High Wycombe	7,526	7,508
Arthur Logan, London	7,510	7,630
Adams Housing, Ltd., Uxbridge	7,479	7,297
J. T. Harris, High Wycombe	7,436	—
C. H. Hunt & Son, High Wycombe	7,413	7,257
J. Honour & Son, Ltd., Tring	7,369	7,330
White Bros., High Wycombe	7,320	—
G. Biggs & Son, Great Kingshill	7,190	7,130
Brown & Sons, Nettlebed	7,141	7,141
Jordans Village Industries, Ltd., Beaconsfield	7,128	7,128
J. & C. Costin, Harrow	7,081	6,976
Jas. White, London	6,984	—
Y. J. Lovell & Son, Marlow	—	6,888
A. L. & H. W. Chown, Northampton	6,792	6,762
Building & Pub. Works Cons. Co., Swindon	6,620	6,601
Hinkins & Frewin, Oxford	—	6,543
A. C. Dean, High Wycombe	6,542	6,517
Pool & Sons, Hartley Wintney	6,520	6,520
H. Harris, Marlow	6,300	6,264

(a) With materials as per D.B.M.S. schedule.
(b) With materials purchased in the open market.
[Tenders sent to the Ministry of Health.]

TADCASTER.—For providing and laying about 3,240 yds. of 3 in. cast-iron water pipes in the parish of Swillington, for the R.D.C. Mr. H. M. Driver, surveyor, Garforth, near Leeds :—

*Squires & Sons, Selby..... £1,175 6

(Twenty-one tenders were received, of which the highest was £2,000.)

WAKEFIELD.—For wiring 90 houses on the Portobello housing estate for power circuit, for the T.C. :—

*Walter Robb, Ltd..... £247 10

WORCESTER.—For painting of Worcester Bridge, for the T.C. :—

*Pethord & Co..... £145

WORCESTER.—For (a) piling of Pitchcroft from Grand Stand to G.W.R. Co.'s wall; (b) piling G.W.R. Co.'s wall to Butts :—

*Hobrough, Ltd.—(a) £1,687 10
(b) 3,002 0

WORCESTER.—For construction of reinforced concrete reservoirs, for the T.C. :—

*T. Broad, Ltd., Malvern—
At Rainbow Hill..... £3,831 9 0
At Elbury Hill..... 4,026 2 7

WORCESTER.—For construction of (a) a 137 ft. filter, and (b) a 105 ft. filter, for the T.C. :—

*Wilson, Lovatt & Sons, Wolverhampton—
(a) £1,561
(b) 1,183

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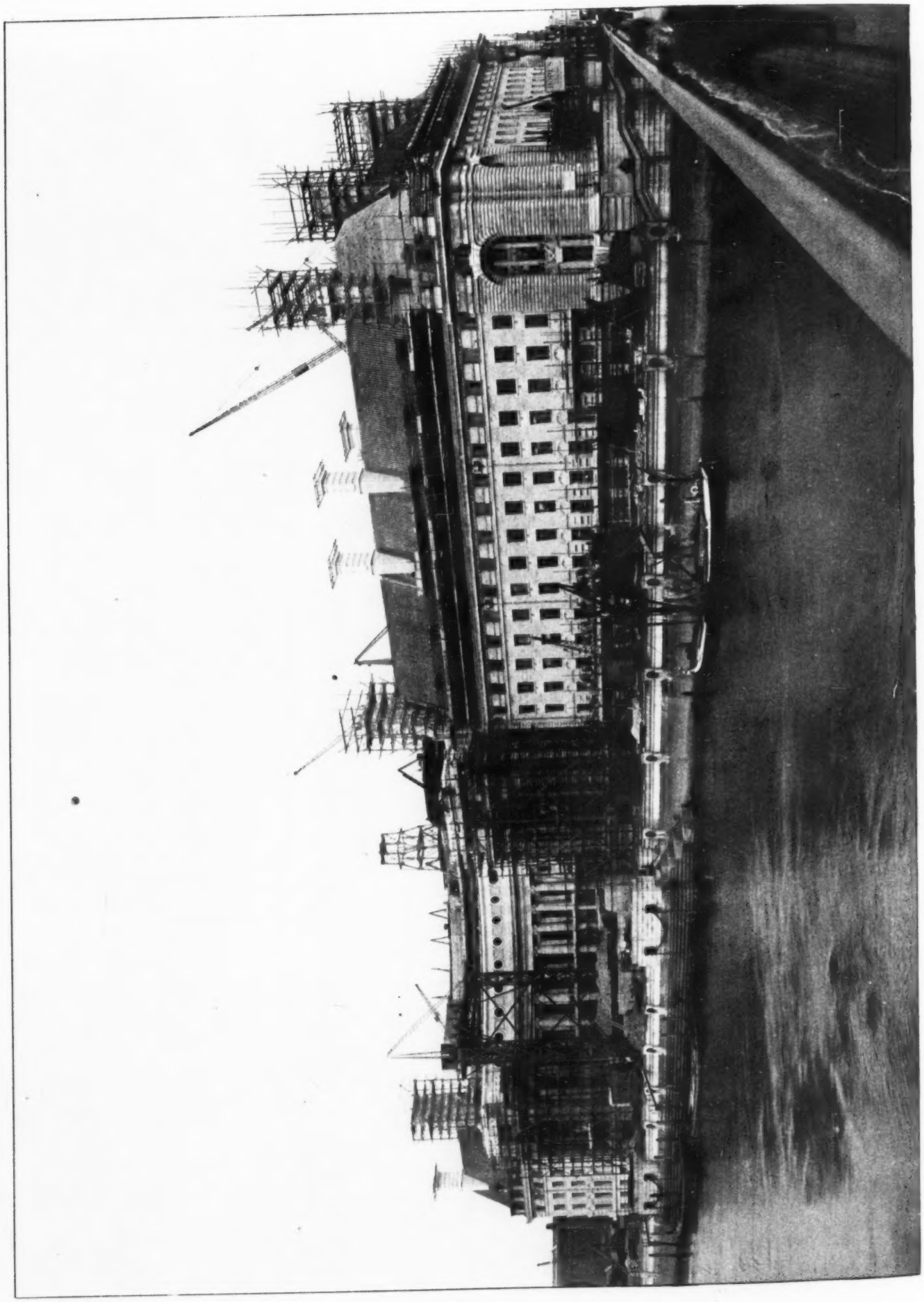

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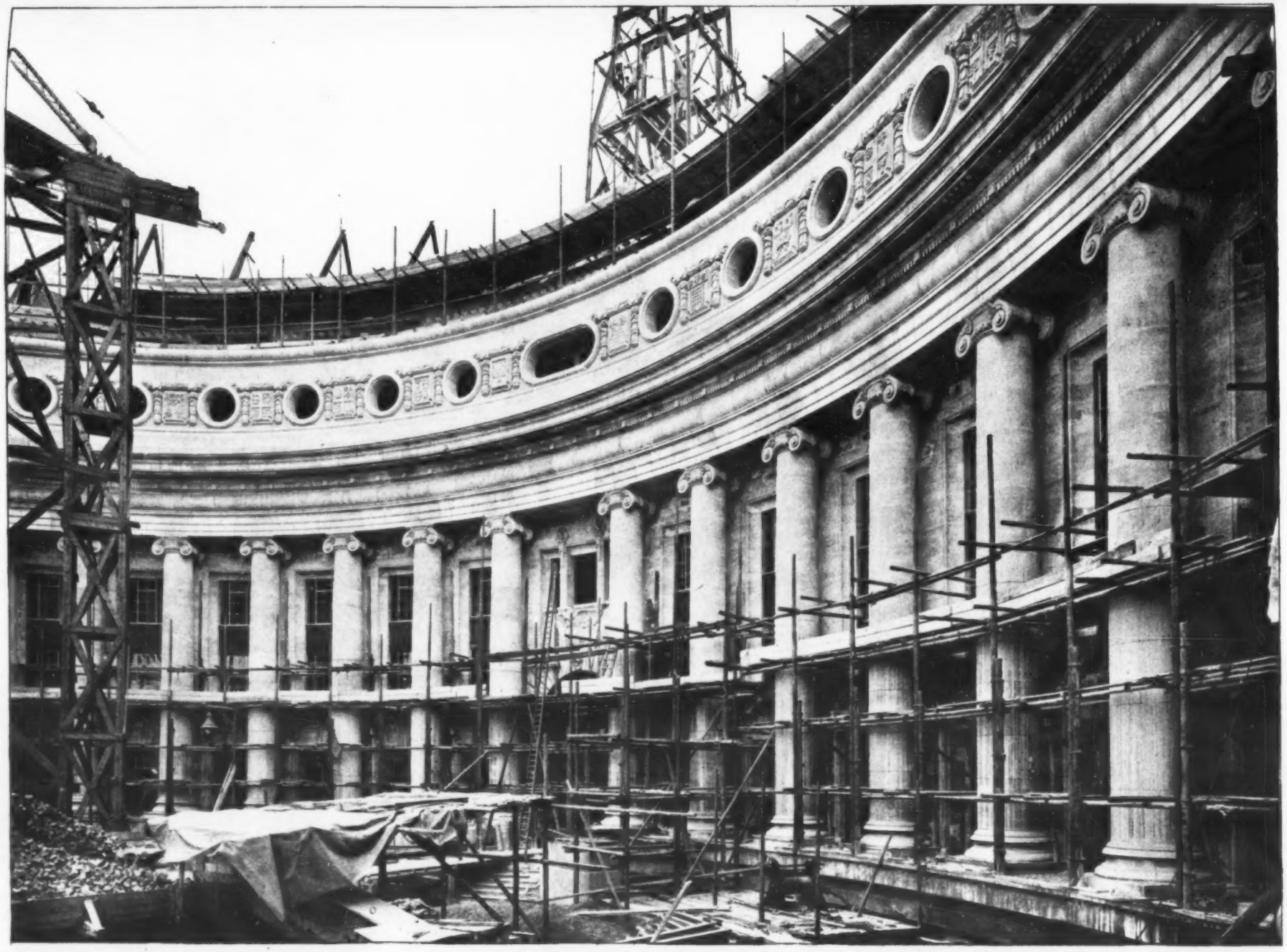

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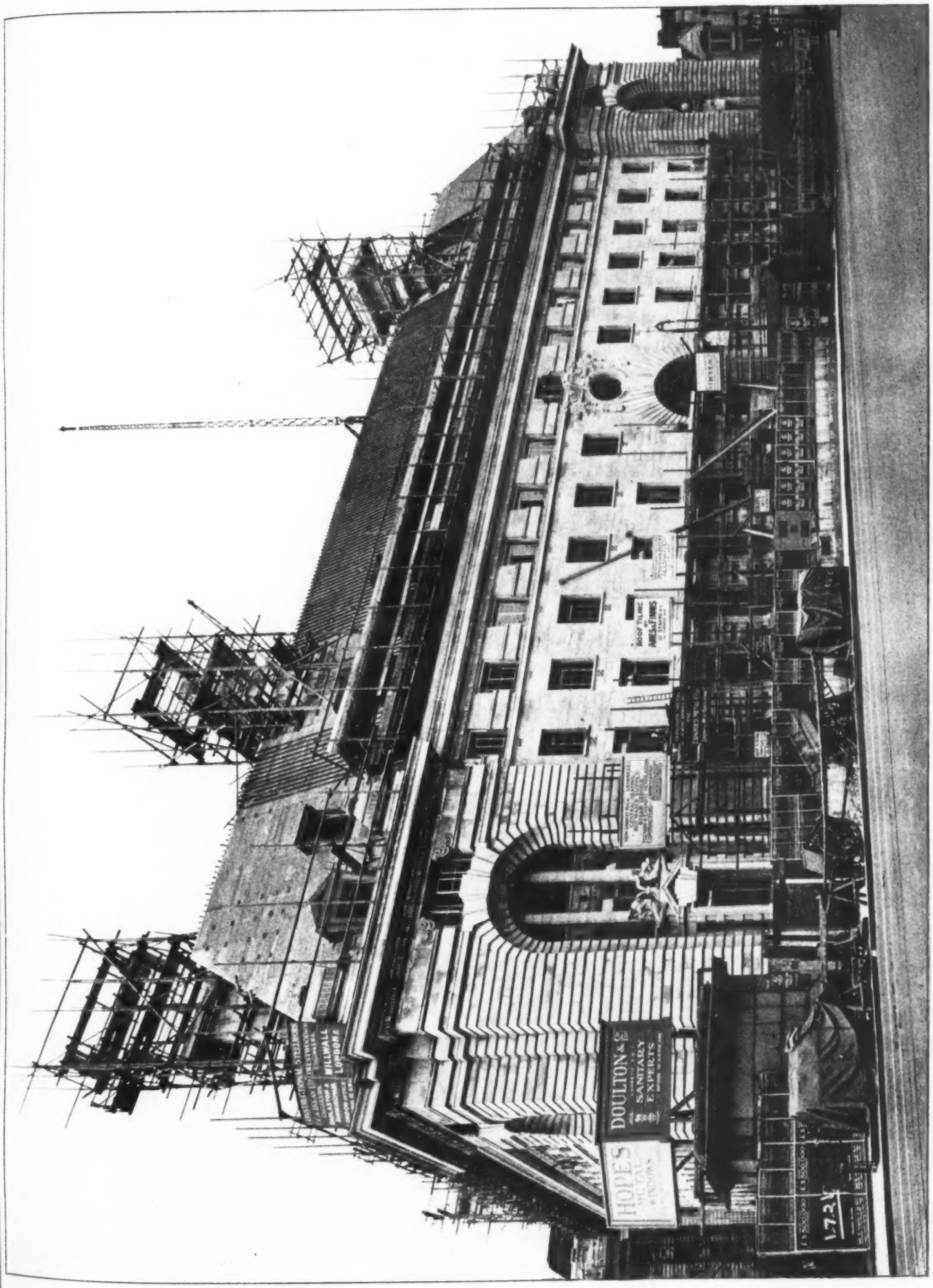

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